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PEDIATRICS

A SEMI-MONTHLY JOURNAL

. . . . DEVOTED TO THE STUDY OF . . . .

Disease in Infants and Children.

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INDEX TO VOLUME II.

(Abstracts are in Italics.)

Page

Abscess of the
  Brain 32
  Retro-Pharynx......... 91
  Thymus 60
Adenoid Growths of the Naso-Pharynx.................177, 540
Alcohol in Diseases of Children 209
Allen, Charles W., M.D....170, 437
American Medical Association. 202
American Orthopedic Association........................ 80
American Pediatric Society 13, 59, 97
Angina, Non-Diphtheritic.... 251
Antisepsis, Intestinal......... 305
Antipyretics.................. 299
Antitoxin in Diphtheria....... 553
Antitoxin of Diphtheria, 78, 96, 121, [165, 208, 406
  by Electrolysis...... 245
  Collective Investigation into the use of..............25, 97
  Death from........12, 26
  Poisoning 494
  Sequelæ 212
Antitoxin of Tetanus 47, 96
Aorta, Coarctation of the...... 330
Arthritis Deformans......... 480
Asphyxia of the Newly Born.. 241
Barbour, Philip F., M.D....... 361
Bathing......... 240
Berlin Letter................... 263
Bieser, A. E., M.D............ 553
Bile-Duct, Congenital Narrowing of.................. 404
Bone Marrow................ 386
Book Reviews:
  A. Brothers on Infantile Mortality............. 82
  J. Lewis Smith on the Diseases of Infancy and Childhood...... 243
British Medical Association.... 526
Bromoform, Emulsion of 241
Bullitt, James B., M.D........ 179
Burns.... 475
Calomel, Method of Administering 77
Cancer of the Rectum......... 86

Page

Carbolic Acid.... 350
  Vinegar as an Antidote to... 337
Carpenter, George, M.D., 60, 234, [288, 330, 430
Castor Oil, Vehicle for........ 388
Cheatle, Arthur H., F.R.C.S.. 472
Cholera Infantum, Injections of Serum in................. 475
Chorea.. 504
Cleft Palate.................. 440
Club Feet, Skiagraph of...211, 580
Cod-Liver Oil, a Substitute for 337
Collins, Joseph, M.D.......198, 224
Constipation...............251, 532
Cough Remedies.... 75
Cretinism..................... 488
Croup, Laryngeal........... 387
Cuthbertson, Hugh A., M.D... 239
Cystitis due to the Bacterium Coli Commune.............. 253
Cyst of the Ovary............ 520
Dabney, Samuel G., M.D..... 177
Deafness, Congenital Syphilitic. 472
Deformity of the Hand.....155, 211
  Ureter 518
Diarrhea..................35, 551
  Tannigen in 282
Diphtheria, 12, 25, 97, 121, 165, 208, [210, 216, 302, 383, 516, 521
  Antitoxin in........ 553
  alias "Worm Fever.". 178
  Nasal Feeding in... 22
  of the Skin.......... 168
  Schools and the Spreading of..... 43
Dislocation of the Hip......... 278
Dogge, A. Chas., M.D.......12, 328
Doses for Children........... 77
Dugan, W. C., M.D........... 71
Ear Disease................407, 544
  Care of the......... 283
  Simulating Intra-Cranial Disease.. 430
Eczema.....................433, 545
Electro-Therapy in Peritoneal Effusion.................... 253
Emphysema during Intubation........................ 215
Encephalocele................ 87

Page
Endocarditis 505
  Intra-Uterine 93
  Malignant 14
Enteritis, Treatment of 46
Enuresis 259, 296, 338, 546
Epilepsy, Belladonna in 355
Epistaxis 487
Erysipelas, Treatment with Vaseline 474
Ether, Administration of 490
Extirpation of the Uterus and Vagina 500
Eyes, Protecting the Infants' 388
Fan Ventilation 339
Faure, John P., Esq 509
Feeding, Infant 63, 255
Ferguson, F. U., M.D 157
Fest, Francis T. B., M.D 69
Fischer, Louis, M.D 63, 263
Fisher, F. R., F.R.C.S 218
Fistula, Umbilical Urinary 406
Flat-Foot 80
Foreign Body in the Bronchus 94
  Esophagus 309 522
  Intestines 529
  Nose 528
Fourteenth Congress for Internal Medicine 298
Fowler's Solution 11
Glandular Fever 580
Goitre Exophthalmic 543
Gonorrhea 281, 354
Gottheil, William S., M.D 324
Guthrie, Leonard G., M.A., M.D., M.R.C.P 1
Heart Disease 234, 441
  Congenital 31, 478
  following Scarlet Fever 31
Hematoma of the Sterno-Mastoid Muscle 242
Hernia, Operation for 85, 86
  of the Lung 210
Hospital for Children at Buenos Ayres 271
  of St. John's Guild 509
Huddleston, John H., M.D 321
Hydrocephalus, following Operation for Encephalocele 87
  puncture for 254
Hydrogen, Dioxide 79
Hydronephrosis 518
Hygiene of Childhood: Exercise 562
Ichthyosis 457
Idiocy, Definition and Classification of 144
  Mongol 315
Impetigo, Contagious 324
Infectious Diseases, Heart Failure During 167

Page
Inflammation of the Tongue 249
Influenza 17, 357
Insects' Stings and Bites 337
Insolation 30
Intestinal Obstruction 328
Intra-Uterine Crying 292
Intubation of the Larynx 209, 210, 301, 516
  Emphysema During 215
  Evolution of 13
  for Papillomata 538
  Stricture Following 443
  Technique of 166
Intussusception 45, 205, 351
Irrigator, Rectal 561
Jacobi, A., M.D 55
Jennings, Charles G., M.D 505
Joint Tuberculosis, Iodoform in 80
Kaplan, W., M.D 471
Kemp, Robert C., M.D 561
Keratitis Xerotica 190
Klebs-Lœffler Bacillus in Apparently Normal Throats 539
La Perleche 69
Larrabee, John A., M.D 228
Laryngitis, Edematous 452
Laryngological Society of London 528
Lemonades, Acid 338
Lichen-Scrofulosorum 436
Liver, Enlargement of 487
Louisville Clinical Society, 205, 396, 529
Louisville Surgical Society, 178, 516
Lumbar Puncture 18, 19, 198
  in Tubercular Meningitis 18
  Sudden Death After 92
Mackern, George, M.D 271
Malaria, Treatment of 287
Marx, S., M.D 82
Mastitis 296
McCurdy, Stewart L., A.M., M.D 374
Measles,
  Micro-organism of 216
  the Ear in 342
Meckel's Diverticulum 1, 70
Melæna Traumatica 346
Meningitis, Cerebro-Spinal 248, 491
  Tubercular 18, 297
Microcephalus 159
Milk, Anti-diphtheritic Property of 573
  Boric Acid in 522
  Butter From Sterilized 192
  Exhibition 572
  Infections 449
  Pasteurization of 29

Page
Mississippi Valley Medical Association.................... 440
Molluscum Contagiosum...... 550
Money, Angel, M.D., F.R.C.P. 313
Monstrosity, *Diprosopic*...... 589
Morgenstern, Julius, A.B., M.D........................ 155
Morton, Charles A., F.R.C.S.. 409
Muscular Pseudo-Hypertrophy. 224
Nagel, J. Darwin, M.D........ 369
Nasal Obstruction, Early Treatment of.............. 526
Neck Ribs................... 521
New York Academy of Medicine........121, 134, 159, 478, 580
Noma........................ 321
Orthopedic Surgery, Scope and Mission of........... 80
Papillomata of the Larynx, 528, 538
Paralysis,
    Paralytic Cripples... 193
    Pseudo............. 39
Parotiditis.................... 474
    Hemoglobinuria in...... 178
Pediatrics, Teaching of........ 438
Pediatric Therapeutics........ 228
Penis, *Congenital Double*..... 312
Perityphlitis, *Treatment of*, 262, 342
Peterson, Frederick, M.D 144
Pharyngitis, *Chronic*......... 521
Phenocoll in Whooping-Cough. 213
Phimosis........... 155
Physiology of Childhood...... 74
Pneumonia, *Broncho*........ 591
    Cerebral......... 311
Poisoning with Bromoform.... 455
    Ivy 78
    Opium.....471, 498
    Petroleum.... 497
    Phenacetin... 260
Premature and Immature Development 586
Prematurely Born Infants, Care of.................... 492
Prescribing for Children..... 240
Princess Paulina............. 369
Progressive Muscular Atrophy........................ 484
Progressive Muscular Dystrophy..................... 484
Prophylaxis of the Infectious Diseases.................... 44
Psychology, Child.....390, 462, 476
Puberty in Girls............... 49
Purpura Hemorrhagica........ 412
    Fulminant.. 239
Quinine, *Palatable*.......... 389
Ray, J. Morrison, M.D........ 516
Rectal Alimentation.......... 387
Rectum, Imperforate.......518, 541

Page
Renal Colic in Young Infants 592
Retention of the Urine........ 343
Rheumatism, Gonorrheal...... 239
Rhinitis, *Purulent*........... 78
    Treatment of....... 303
Rickets, The Muscles in....... 53
    Treatment of.......84, 542
Ring Worm.......169, 202, 241, 571
Royal Medical and Chirurgical Society..................... 586
Sarcoma of the Cæcum........ 348
    Thymus and Bronchial Glands............... 33
Scarlet Fever................ 245
    Anti-Streptococcus Serum in...... 259
    and Measles 547
    Treatment of Dropsy after... 213
Scurvy................350, 374, 537
    followed by Renal Colic and Pyuria.......... 265
Seborrhea.................... 241
Sepsis,
    from the Umbilicus.... 307
Serum Exanthems in Diphtheria 521
Sex, *Predicting before Birth*. 59
Small Pox.................... 336
Skiagraph of Club Feet...... 211
    Deformity of Hand..... 211
    Tuberculosis of Knee.... 211
Specht, John, M.D. 562
Stenosis, *Pharyngo-Esophageal*.......................
Stephenson, Sydney, M.B., F.R.C.S................... 190
Stern, Arthur J., M.D......... 559
St. John's Guild............... 509
Strychnia in Pediatrics. 593
Sutherland, George A., M.D.. 412
Syphilis................95, 361, 396
    Congenital.. . 159, 264, 341, [345, 472
    Fœtal................ 247
    of the Larynx........ 288
Taylor, Henry Ling, M.D..... 339
Taylor, J. Madison, M.D...... 49
Teeth and Superstitions....... 451
Telford-Smith, T., M.A., M.D., 315
Tetanus Antitoxin...........47, 97
Tetany................157, 388, 473
Thigh Friction in Children... 29
Thomson, John, M.D.......... 265
Thrombosis of the Innominate Vein..................... 60
    Superior Mesentric Vein 349
Thyroid Feeding......387, 388, 543
Tibia, Operation for Loss of Substance of................ 88

Page
Tic, or Habit Movements...23, 165
Tonsillotomy................. 440
Tonsils, Hemorrhage after Excision of................ 77
Tracheotomy..............338, 526
Tubercle Bacillus, Staining of the........................ 38
Tuberculosis..................356
Tuberculosis of the
  Choroid............ 330
  Joints.............80, 179
  Knee............... 212
  Peritoneum......... 310
  Spine...........218, 502
  Superficial Glands... 207
  Thymus............ 60
Tumor of Bladder............. 352
  Umbilicus.........1, 409
Twin-Birth with Long Interval Between the Births..... 549
Typhoid Fever..............42, 536
  Chemical Diagnosis of. 523
  In Australia.......... 313
  Insanity following.... 20
  Necrosis following.... 37
  With Gangrene of the Lung............. 13

Page
Umbilicus, Tumor of.......... 1
Urethra, Prolapse of......... 521
Urine in Children, Incontinence of...........................566
Vaccination................. 70
  Eruption.............. 159
  Liquid Virus for......... 568
Varicella.................. 559
Virus in Liquid Form......... 568
Wainwright, W. L., M.D...... 178
Walker, W. A., M.D........... 383
Walsh, David, M.D............ 457
Ward, S. M., M.D............. 566
White, Grace E., M.D......... 518
Whooping-Cough.............. 293
  Cerebral Hemorrhage in...... 496
  Treatment of, 213, 246
  [520, 522
Witmer, Lightner, Ph.D...390, 462
Willard, DeForest, M.D....193, 278
Williams, Joseph W., M.D......428
Winters, Joseph E., M.D...... 121
Wolff, Bernard, M.D.......... 281
Worms, Treatment of.....250, 387
Wry-Neck, due to Adenoids.. 540
Yearsley, Macleod, F.R.C.S... 283

ILLUSTRATIONS IN VOLUME 2.

Abscess of the Thymus..........61
Children's Hospital at Buenos Ayres.... 272, 273, 274, 275, 276
  of St. John's Guild, 510, 511
  [513, 514
Idiocy, Epileptic................151
  Good Natured.........145
  Hemiplegic............145
  Hydrocephalic......147, 153
  Microcephalic (two views)...............149
  Mongol................316
  with Multiple Sclerosis.147
  with stigmata..........151
Impetigo, Contagious...........324
Irrigator, Rectal.............. 561
Meckel's Diverticulum..........3,4
Mongol Idiots,
  Casts of Hands of......317
  Skiagraph of Hand of..318

Monstrosity, Diprosopic....... 590
Myocarditis....................236
Princess Paulina,
  Hand of................370
  Death Mask of.........371
Progressive Muscular Dystrophy..225, 226, 479, 481, 483, 485
Purpura Hemorrhagica....415, 417
Scurvy................375, 377, 379
Skiagraph of hand..............318
  of leg.................89
Syphilis,
  Interstitial Pneumonia in.....................291
  Scarring of Mouth and chin in....................289
  Ulceration of the Larynx in....................290
  Umbilicus Growths of..410
  Polypus of...........9,10

CONTRIBUTORS TO PEDIATRICS FOR 1896.

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PEDIATRICS

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Original Articles.

A CASE OF PATENT MECKEL'S DIVERTICULUM INTO WHICH THE POSTERIOR OR DISTAL WALL OF THE ILEUM BECAME INTUSSUSCEPTED, FORMING AN UMBILICAL TUMOR — DEATH, NECROPSY, AND REMARKS.

By Leonard G. Guthrie, M. A., M. D. Oxon., M. R. C. P.,
London.
Physician to Out-Patients and Pathologist to Paddington Green Children's Hospita
and North West London Hospital.

I AM indebted to Mr. W. Watson Cheyne for permission to publish the following case.

D. L, a male infant, aged 6 weeks, was admitted to Paddington Green Children's Hospital on April 25, 1892, for the treatment of umbilical fistula and tumor.

He was born at full term and then weighed 7lbs. 3oz. For three days after birth no motion was passed. He then began to defecate through an opening in a colorless bladder-like protrusion which had existed from birth at the umbilicus, and to which the cord was attached. The cord separated on the ninth day. The colorless protrusion subsequently became red and inflamed and finally ulcerated and disappeared a few days before admission. For about a month after birth some portion of the fæces came from the mouth, but latterly all were passed through the umbilicus. Micturition was normal.

On admission he was extremely puny and emaciated.

Protruding from the umbilicus was an elongated mass about 1½ inches long by 1 inch in breadth. It was of a dull red color, and had the appearance of congested mucous membrane. Near its extremity superiorly was an opening through which fæces were discharged. A catheter introduced here passed in a direction upwards and to the right. There was also a small dimple on the inferior part of the protrusion, but this appeared to be impervious.

A catheter could only be introduced into the rectum to the extent of 1½ inches.

On the 29th the protrusion increased to the length of 6 inches. It became somewhat tightly constricted at the umbilicus. It was much congested and resembled an intussusception. An effort to reduce it by taxis failed, and as the patient's condition did not admit of operation the hernia was left. Two days later it became spontaneously reduced to its former dimensions ; but the child died of exhaustion on May 2.

Necropsy.—The protrusion at the umbilicus was formed by a spur-like projection of the posterior wall of the ileum, 12 inches above the ileocaecal valve, through the umbilical orifice. The upper opening on its surface, through which faeces escaped during life, led directly into a somewhat dilated ileum. The dimple on its lower surface, which had previously been considered impervious, was found to admit a probe which passed into the continuation of the ileum below the umbilicus. The ileum here, and for the rest of its course, and also the whole of the large intestine, were reduced in size to the thickness of a lead pencil. The caecum was no larger than the top joint of the little finger.

The whole of the intestines below the dilated portion of the ileum, ending at the umbilicus, were quite empty, and appeared never to have contained faeces.

The pathology of this case is as follows :

The bladder-like protrusion from the umbilicus was evidently the blind external extremity of a large Meckel's diverticulum.

After the cord had separated, the external coverings of the hernia became inflamed and gangrenous, and eventually disappeared, leaving a large umbilical fistula through which the posterior or distal wall of the bowel protruded in the form of a spur covered with mucous membrane.

This spur-like protrusion entirely cut off the upper from the lower part of the ileum. Faeces passed exclusively through the opening on the upper surface of the spur, but could never have access to the orifice which led into the bowel below.

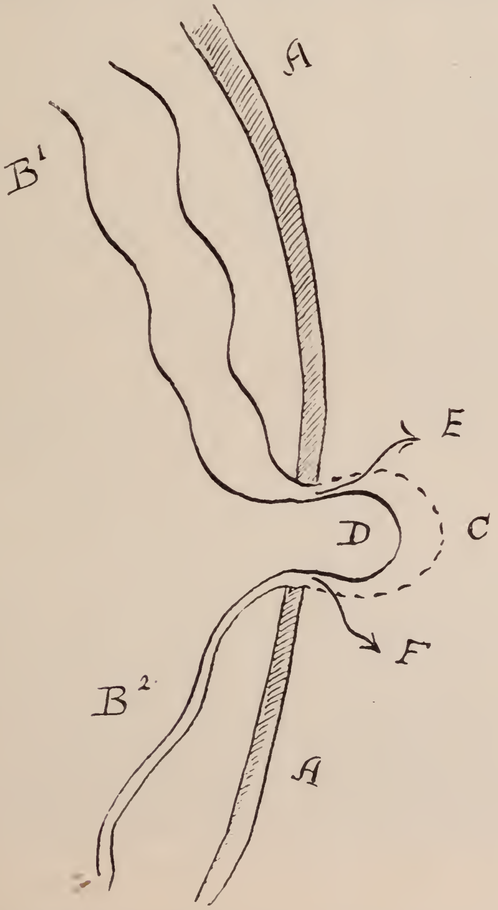
Hence the greater portion of the small intestine and the whole of the large intestine remained empty and contracted from birth.

The child's enfeebled condition prevented any attempt to relieve it by operation.

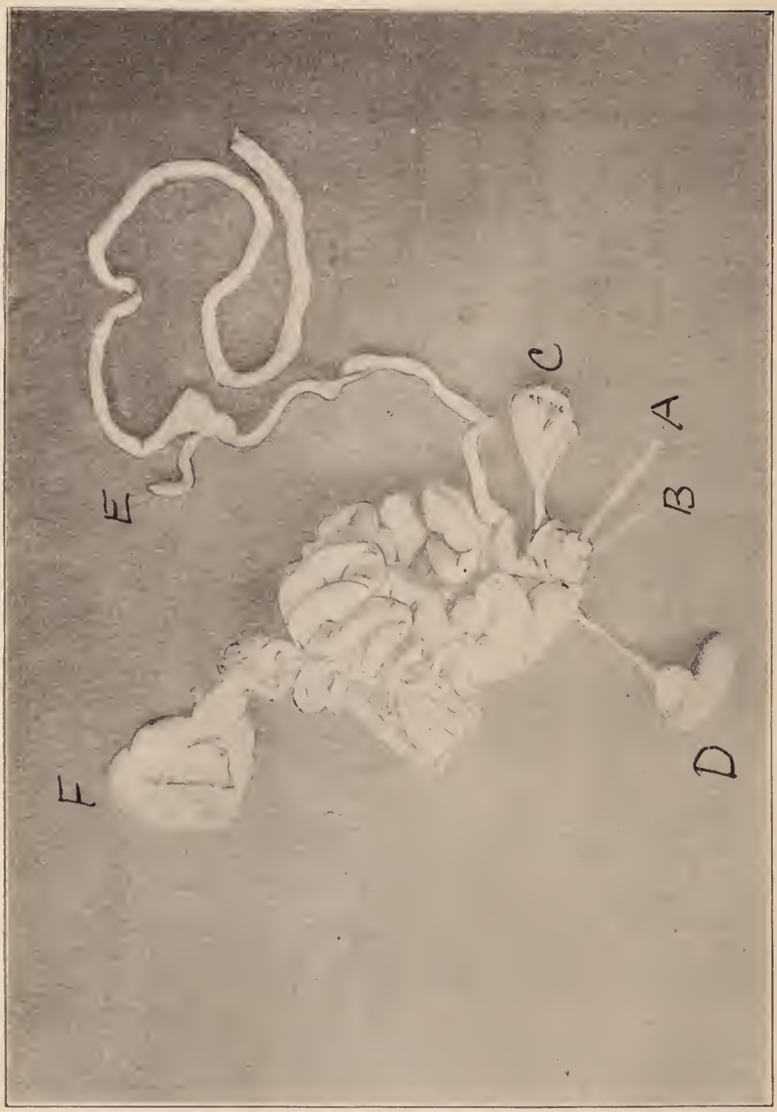
The patient was shown during life by Mr. Watson Cheyne at a meeting of the Medical Society on April 11, 1892, and the intestines were exhibited by myself at a meeting of the same society on January 30, 1893.

The subjoined photograph (page 4), taken by Dr. C. H. McIlraith, House Surgeon to the Hospital, clearly shows the condition discovered after death. I am also indebted to him for the notes of the case taken during life.

The diagram illustrates the probable course of events :



(A.) Abdominal wall.
(B¹.) Upper dilated ileum opening on superior surface of tumor at E.
(B².) Lower constricted portion of ileum opening at F.
(C.) Dotted line marking original bladder-like protrusion of Meckel's diverticulum which disappeared, leaving:
(D.) Intussusception of posterior or distal wall of ileum through umbilical orifice of diverticulum.



(A.) Stylet introduced through opening leading into upper dilated portion of ileum.

(B.) Stylet leading into lower constricted portion of the bowel.

(C.) Bladder with urachus in connection with umbilicus.

(D.) Portion of liver with round ligament.

(E.) Vermiform appendix.

(F.) Stomach.

Remarks.—The condition described above is that of patent Meckel's diverticulum with umbilical tumor in their most serious form. Most serious because the upper portion of the bowel is completely cut off from the lower by the spur-like protrusion of the posterior or distal wall of the gut through the umbilical orifice of a patent Meckel's diverticulum. There is complete intestinal obstruction, and faeces are passed entirely per umbilicum. BARTH (*Deutsche Zeitschrift f. Chirurgie, B. iii, 1887*) has collected four similar cases. Others have been recorded by GIBB (*Lond. Path. Soc. Rep. xxxii, p. 204*), HOLT (*New York Med. Rec. 1888, xxxiii, 431-3*) and GOLDING BIRD (*Clinical Soc. Trans., Nov. 8, 1895*).

The characteristic result of this deformity is atrophy, from want of use, of the whole of the intestine below the point of obstruction. This condition renders the operation of resection of the portion of gut involved in the diverticulum, and junction of the divided ends, extremely difficult and probably impossible, unless undertaken within a short time after the malformation and its results have become manifest.

Possibly artificial distension of the distal portion of the intestine, at the time of operation, might prevent the obstruction to faeces, which would otherwise certainly occur, below the junction.

Next in order of severity is the condition in which the bowel remains permeable throughout its extent, and faeces are passed per anum.

The tumor here is formed by protrusion of the *anterior* or proximal wall of the bowel through the umbilical orifice of the diverticulum.

The anterior walls of the bowel, either above or below the umbilicus, or both, may project and form a tumor. In these cases a probe can usually be passed through the tumor into the intestine, but the fistula does not, as a rule, transmit faeces. A sudden increase of the hernia may at any time occur and cause dangerous obstruction. Hence resection of the bowel is indicated, and is far more likely to be successful than in the previous case.

An early operation affords the best chance of success, for these tumors are also apt to become inflamed, or bleed and exhaust the child.

It is necessary for the formation of the above two varieties of umbilical tumor that Meckel's diverticulum should be short, widely open, and with a large external orifice.

Probably these conditions imply an early defect in development during intra-uterine life, and the varieties of Meckel's diverticula found may depend on the period at which the defect occurs.

For instance, the most common and least offensive form of diverticulum is a blind off-shoot from the gut, measuring two or three inches in length, lying free in the abdominal cavity, unconnected with the umbilicus, and resembling in all particulars the intestine from which it springs.

This condition suggests that the defect of development has occurred when the withdrawal of the umbilical vesicle into the abdomen is all but complete.

Sometimes the blind off-shoot is connected with the umbilicus by a fibrous and impervious cord, which may produce strangulation of the bowel in after life. This may be held to indicate an earlier developmental defect.

Whilst in still earlier cases the diverticulum remains pervious, though too narrow to allow prolapse of the bowel through it, and has an umbilical orifice marked by a minute umbilical polypus.

HOLT regards these minute polypi, which are easily removed by caustics or ligature, as produced by inversion or prolapse of the mucous membrane lining an open diverticulum. They are not, he thinks, adenomata, or new growths starting from the inclusion of some epithelial cells, the remains of Meckel's diverticulum in the umbilical cicatrix, as KASTNER (*Virch. Arch: Bd. lxix, p. 286*) has supposed.

These insignificant red-currant-like excrescences occur in the neighborhood of the umbilicus after the funis has separated. They are probably strictly congenital, although not observed until after the cord has dropped off. Sometimes they are small enough to be concealed beneath the overlapping margins of the umbilical ring, where their presence is suggested by the redness and inflammation produced by their irritating discharge. They are attached to the umbilicus by a short pedicle.

Even in the smallest an orifice may sometimes be found through which a fine probe may be introduced for some distance, but they often appear to be impervious. Probably all have an orifice at one time, but it becomes narrowed or obliterated in proportion to the amount of mucous membrane protruded and everted, just as in the case of artificial anus, prolapse of the mucous membrane of the bowel causes narrowing of the aperture.

Their appearance favors Holt's view as to their origin, and if this view be correct they are but minor forms of the grave defect which caused death in the case mentioned above.

In the graver forms a large, short and widely open Meckel's diverticulum allows the mucous membrane of the bowel itself to protrude and form a tumor. Whilst in the minor forms the polyp is produced by protrusion and eversion of the mucous membrane lining a diverticulum, which, though pervious, is too narrow to allow hernia of the bowel itself. The probability that Holt's explanation is correct is heightened by the microscopical appearances of the minor forms of umbilical polyp.

Externally they consist of mucous membrane covered with a layer of columnar epithelium and containing branched or test tube glands, lined with similar epithelium and opening on the free surface of the polyp. The connecting stroma between the acini of the glands is composed of richly nucleated and vascular fibrous tissue. More internally are found bundles of muscular fibres arranged circularly, and also radiating so as to form trabeculæ amongst the glandular tissue. Solitary lymph follicles also occur in the deeper parts (*Ball. Ill. Med. News, Vol. iv, 89*).

Allowing for the disorder and misplacement of the constituent parts which would occur in the process of protrusion and eversion of the mucous membrane, the structure of a polyp closely resembles that of the intestine.

The mucous glands found on the surface, according to VAN HANKELOM (*Virchow's Arch. f. Path. Anatomie, Mar. 2, 1888*) and BALL (*op. cit.*), resemble for the most part those of the pylorus, but in some cases are like those of Lieberkühn.

Van Hankelom explains the presence of pyloric glands on the supposition that they only develop in parts not exposed to bile.

But the pyloric glands must be necessarily often exposed to bile, and there is but little distinction between their structure and that of Brunner's glands, which are always so exposed. His theory would, therefore, carry more weight if the glands in question resembled those of the cardiac end of the stomach instead of resembling those of the pylorus.

Another explanation of the coincidence is that similar glands are found in both pylorus and polyp, because both these structures are less highly developed or more embryonic in character than other portions of the intestines.

Meckel's diverticulum is not to be regarded as an arrest of development, but rather as an abnormal development of a structure, which normally should become atrophied and disappear.

Instead of doing so it persists, and becomes practically a part of the intestine, sharing its development to a varying extent.

Hence, it is not surprising that any structure found in the intestine should also be present in the polyp, which is part of the diverticulum.

As already suggested, the varieties of the diverticula found may be accounted for according to the period at which the mal-development occurs, and also it may be added according to the period at which it ceases.

When it occurs late, as a blind free offshoot of the intestine, its structure is indistinguishable from that of the intestine itself.

When it occurs early—that is, when it remains pervious and with an umbilical orifice—it may resemble and share the structure of the intestine to a certain extent; but if its development ceases early, it may contain structures more or less embryonic in character.

For instance, an umbilical polyp, described by PEARCE GOULD (*Path. Trans., vol. xxx, p. 204*), closely resembles a soft mucous polyp of the rectum, the glands of which are undoubtedly more embryonic in character than the test tube or Lieberkühn's glands ordinarily found in the umbilical polyp.

In the subjoined photograph of an umbilical polyp, kindly lent to me by Mr. Stanley Boyd, a mass of glands towards the interior of the growth may be seen, which are precisely similar to those found in a rectal polyp. But the glands on the surface are the test tube or branch variety normally found in the small intestine, and therefore indicate a higher degree of development than that of the central mass of glands.

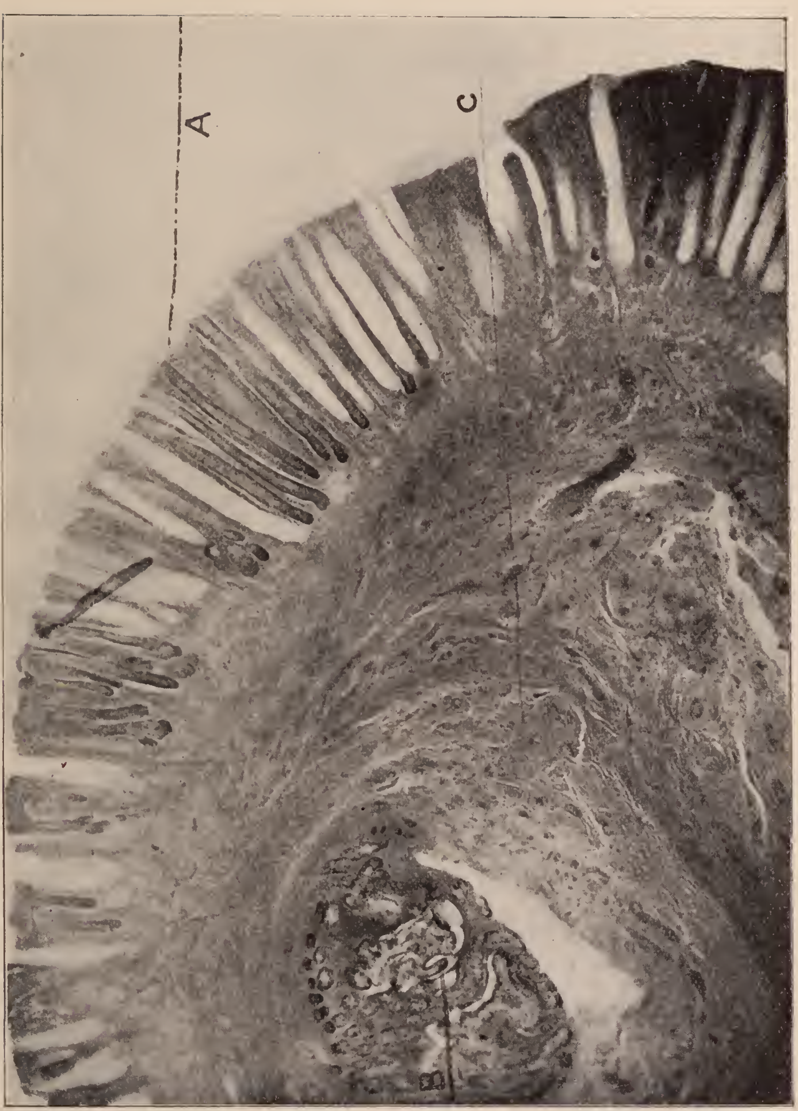
It may be that similar glands are found in both pylorus and polyp, because these structures are actually less highly developed or more embryonic than other portions of the intestines.

Cohnheim's theory of the origin of tumors is based on the fact that they occur at all points at which developmental processes are complicated; in other words, the structures at these points are less highly finished than those which they link. Embryonic elements are wont to exist here and to form the foci of tumors.

Both the pylorus and the umbilicus are sites of such complicated development, and both are commonly the sites of tumors.

Hence, when pyloric glands are found in an umbilical polyp, we may assume that the Meckel's diverticulum has not shared the development of the intestine so fully as when Lieberkühn's or test tube glands are present.

Whilst when the polyp resembles in structure a rectal polyp, we

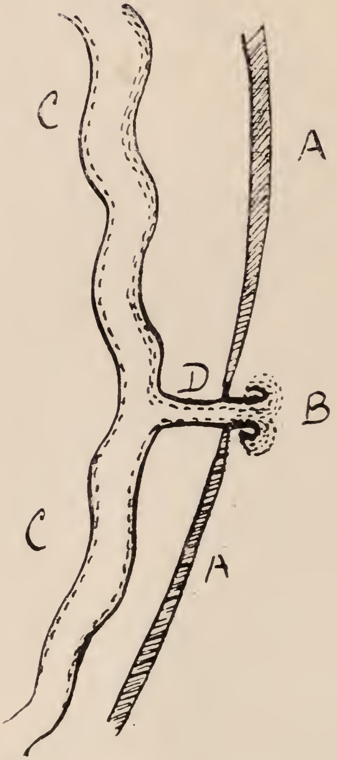


SECTION OF UMBILICAL POLYPUS.

A. Cortex showing test tube and branched glands.

B. Mass of Gland Tissue. The glands convoluted, lined with coarse cubical epithelium, and resembling those found in rectal polypi. Probably this marks the central canal of the growth.

C. The stroma consisting of richly nucleated vascular fibrous tissue with scattered bands of muscular unstriped fibres.



To illustrate the probable formation of Umbilical Polyp. (Suggested by Holt's drawings.)

A. Abdominal Wall.
B. Polypus formed by protrusion and eversion of mucous membrane lining
D. Patent Meckel's diverticulum.
C. Intestine.

may imagine that the development of the diverticulum is still more deficient than when pyloric glands are present.

Summary.—The chief varieties of umbilical tumors associated with patent Meckel's diverticulum are:

(1). The tumor is caused by intussusception of the posterior or distal wall of the bowel through the umbilical orifice of a short widely open diverticulum.

Faeces are passed entirely through the opening in the tumor which leads into the upper portion of the bowel.

The lower portion of the bowel becomes atrophied from disuse.

Operative treatment might be successful if undertaken early. Otherwise it is extremely difficult and probably impossible.

(2). The tumor is formed by prolapse of the anterior or proximal walls of the bowel through a short widely open diverticulum. Either the lower or the upper wall of the bowel may project.

There is no obstruction of the intestine, and faeces are passed per anum.

Operative treatment would be probably successful if undertaken early.

(3). Cases of umbilical polyp in which the tumor is formed by protrusion and eversion of the mucous membrane lining a narrow but pervious diverticulum.

Treatment by caustics or ligature is simple and successful. These are only important because the connection by means of the diverticulum, between the bowel and umbilicus may at some time cause obstruction.

The Preparation of Fowler's Solution.—According to Benysek (*Pharm. Zeit.*) Fowler's Solution is damaged by exposure to light and air, the result being a decided loss of arsenic oxide, but this loss can be largely retarded by the addition of alcohol. The author says, however, that it is much better and more practical to prepare a solution which instead of being alkaline is exactly neutral, and for this purpose he recommends the method proposed in 1894 by Lonne, which is as follows: Dissolve 1 gm. of arsenic oxide by the aid of heat in 10 ccm. of normal potassa solution; when cold add 40 gm. of distilled water, 10 ccm. of normal hydrochloric acid and 50 gm. of spirit of melissa, or any other desired flavoring, and finally bring the whole up to 100 gm. by the addition of distilled water.—*Am. Druggist, 1896, xxviii, 303.*

A CASE OF DEATH AFTER INJECTION OF ANTITOXIN.

By A. Chas. Dogge, M. D.,
Helena, Mont.

HERMAN, age 3 years, with a previous history of good health, was taken sick on the evening of March 14 and went to bed. The next evening I was called. An examination showed swollen and red tonsils; temperature, 99°; pulse, 100. Having had diphtheria in the city, I suspected it would be a case, but having had bad results from the use of antitoxin before membrane appeared, I waited and gave the common treatment for follicular tonsilitis. In twenty-four hours the exudate covered the tonsils with a grayish membrane, but the child's condition was very good. Temperature, 101°; pulse, about 110, good and strong. The child sat in bed, wanted to play, and remarked that he would like to get up. I concluded to use antitoxin. After sterilizing my syringe and washing the skin of the patient I injected 10 c. cm. of antitoxin, and in a few minutes left. I had hardly reached my office before the father came running, saying that the child was dying. Before I reached the house the child was dead. I was greatly surprised, and could not account for it. The autopsy showed nothing abnormal. I have treated 85 cases with antitoxin, and this was my first accident.

The first edition of Jacobi's excellent book on the "Therapeutics of Infancy and Childhood" is exhausted.

The mortality among the children of the Polish and Russian Jews in the slums of London varies from 60 to 80 per cent., owing to the unsanitary surroundings. The average mortality among children in England is only 25 per cent.

Slaughter of the Innocents.—In a recent article on "the slaughter of the innocents," Prof. Masse, of Bordeaux, says that mothers ought to nourish their own infants; "out of 94,000 infants put out to nurse at the expense of the State last year, 68 per cent. died."

Malaria and Typhoid Fever are being gradually extinguished in Rome, thanks to the new water-works. While in 1881 there were 650 deaths from malaria, in 1895 there were only 125. The population of Rome has increased in that period from 300,000 to 467,000.

Society Report.

AMERICAN PEDIATRIC SOCIETY.

Eighth Annual Meeting at Montreal, Canada, May 25 to 27, 1896.

THE address by the President, DR. JOSEPH O'DWYER, of New York City, was on the **Evolution of Intubation of the Larynx.** He gave a history of his early struggles to solve this problem and showed the tubes in the different stages of evolution, the first simple tube—almost a wire frame—the short bivalve, the long, straight tube, and finally the perfected tube with its head rounded off smoothly and thrown back to prevent ulceration at the base of the epiglottis, the double wedge along the sides to prevent its being coughed out, the rounded and thickened lower end, etc., etc He laid special stress upon the fact that intubation was not the result of chance, but of persistent, systematic thought; and that the chief incentive to the work was the failure with tracheotomy at the Foundling Hospital.

He also showed a set of large round tubes for the removal of loose membrane or of foreign bodies from the larynx; a set of adult tubes; a tube so modified that it acted as a snare for the removal of subglottic growths; and a modification of Fell's Apparatus for the purpose of artificial respiration.

The next paper was read by DR. GEORGE N. ACKER, of Washington, on **Gangrene of the Lung, Complicating Typhoid Fever.** The patient was a boy eight years old, with a good family history. He was admitted to the Children's Hospital on December 23, 1895, after a week's illness which was marked by headache, abdominal pains, fever and delirium. On admission there were several rose spots on the abdomen; the bowels were loose, and over both lungs there were some fine râles. There was marked delirium, which increased towards evening. The typhoid state was very advanced, with sordes on the lips and teeth, muttering delirium and carphologia. He continued to grow worse until Dec. 29th, when it became necessary to resort to nutritive enemata, as the child could not swallow. There was a frequent cough, and numerous small and large mucous râles in both lungs. On Jan. 1, 1896, both parotid glands became enlarged, and painful, and the breath became very offensive. He continued to grow worse. The parotid glands grew large, and more tender, and the breath became extremely foetid, so much so that it was with great difficulty that the nurses could attend to the child. On Jan. 2nd he began to have convulsions. The pulse grew weak, rapid and irregular, and the head and face swollen. An incision was made in both parotid glands, and pus was removed from each of them. The relief was only temporary. He gradually lost ground, and died on Jan. 15th. Previous to death there was bronchial breathing, and dullness over both lungs posteriorly.

Autopsy.—The right pleura was found adherent to the chest wall, and about a pint of pus escaped when the lung was removed. Both lungs had a large gangrenous abscess posteriorly, containing dark blood clots, also smaller abscesses. The tissue around these abscesses was consolidated. The pleuræ were covered with lymph exudation. The gangrenous odor was very extreme. The vertebral column and the ribs were eroded in spots. The spleen and the mesenteric glands were enlarged. The intestines presented marked evidences of typhoid fever.

Dr. J. Henry Fruitnight, of New York, read a paper on **Malignant Endocarditis, with Specimen.** The patient, a girl aged 11 years, had an indefinite history of illness of one week's duration. Temperature was 105° Fahrenheit, and she presented the general appearance of a patient ill with typhoid fever. She had had measles and pertussis, and two years previously she suffered from an attack of acute articular rheumatism. The onset of the present attack was marked by vomiting, headache and a high fever; then she became drowsy and complained chiefly of headache. Her tongue was fissured and covered with sordes. The abdomen was tympanitic and tender. The spleen was enlarged and tender. There were no rose spots, the lungs were normal, and a careful examination of the heart gave negative results. There was no murmur and she was supposed to be suffering from typhoid fever. She finally became delirious and ecchymoses appeared on the first joint of one of the great toes and the right elbow. The pulse became very rapid and feeble. The patient became comatose, and petechiae appeared on the body and extremities. The pulse grew weaker, dyspnœa increased, and the patient died in a state of coma.

Autopsy.—Petechiae were present over the body and abdomen, over the elbow, on the lower extremities and in the conjunctivae. The lungs were normal. The heart showed small sub-serous hemorrhages and was found to have stopped in diastole. The right ventricle was dilated and contained fluid blood. Small vegetations and ulcerations were present on the tricuspid and mitral valves. The heart weighed six ounces. The kidney showed thrombotic infarctions and each one weighed three ounces. The supra-renal capsules were slightly adherent. The spleen weighed eight ounces. The liver showed slight parenchymatous hepatitis and weighed two pounds and three ounces. The mesenteric glands were somewhat enlarged. The intestines exhibited hemorrhagic spots and on the interior ulcerations, but not those of typhoid fever. In the left lumbar region there was circumscribed peritonitis; in the stomach submucous hemorrhages were present, and some ulcerations were found. The bladder was very much thickened and revealed submucous hemorrhages. The uterus and ovaries also showed small hemorrhages. The brain was highly congested. Bloody fluid was found in the ventricles. A hemorrhage in the arachnoid covered the first frontal and orbital convolution on the right side. The microscopical examination showed a vegetation consisting mostly of granular fibre with nuclei here and there of round cells in its lower portion. The endocardial tissue was infiltrated with a large number of round cells which extended down to the muscular fibre in the specimen. The vegetations contain a large number of micrococci which were arranged in group like clusters and which extended through the fibrous tissue through the heart wall. A plate culture made from a vegetation showed almost pure colonies of the staphylococcus pyogenes aureus. The pathological and anatomical diagnosis of the case was therefore malignant endocarditis due to staphylococcus infection.

Though no cardiac murmur or lesion could be detected by physical examination, the presumption was nevertheless tenable that inasmuch as the patient has passed through an attack of rheumatism, some change, possibly slight, must have taken place in the endocardium. This change of condition was then a predisposing cause, and very possibly the small abrasion on the foot of the patient was the source from which the staphylococci secured entrance to the circulation, and in consequence exerted their baneful influence upon the already infected endocardial membrane; the micro-organisms thus acting as the exciting cause of the disease in this case.

The author then reviewed our knowledge concerning malignant endocarditis, giving the studies of Wechselbaum, Wissokowitsch, Grancher, Babes, Netter and Osler. He called attention to the fact that the disease is probably brought to the valves directly by the blood and not through the capillary channels; that there must be a susceptibility to the poison on the part of the endocardium; that the right heart is very infrequently affected, notwithstanding the fact that the infected matter usually first passes through the cavities of the right side, which is probably due to the fact that micro-organisms have a predilection for blood rich in oxygen. The prognosis is always very serious, but the disease runs a more rapid course when the infection is due to streptococcus, less rapidly when due to the staphylococcus. He also called attention to the fact that in the majority of cases there is a mixed infection which renders the diagnosis very difficult and almost impossible. This disease is very rarely a primary one. The secondary malignant variety is not very frequent in the course of rheumatism, and is extremely rare in chorea. It is of most frequent occurrence during the course of pneumonia and a small number of cases may be complicated by cerebro-spinal meningitis. It may rarely accompany tuberculosis and even more rarely diphtheria, small pox and scarlet fever. The claim that it may occur in the course of an intermittent fever is probably an error. It is also to be met with in the course of epidemic dysentery.

The author then reviewed all the cases previously reported, beginning with that of Dr. Kirkes about 40 years ago, and referring to those of Osler, Donkin, Cheadle and others. He then discussed the symptoms and diagnosis and treatment. In discussing the treatment he said that it should embrace the management of the local source of infection as well as that of the constitutional infection. In the pyæmic and septic cases the measures appropriate thereto will be indicated.

The diet should be regulated and should consist of easily digested and highly nutritious food. The excessive activity of the heart should be diminished by cardiac sedatives. The fever should be reduced by the employment of baths, cold affusions and cold packs. Ice baths are of service to allay headache and to lessen cerebral excitement, and as bacteriacides the mineral acids, quinine and salicylic acid, can be given.

In order to avoid gastric disturbance and weakening of the heart's action, digitalis should be administered with great caution. To keep up the flagging heart, glonoin, strychnine, camphor, the double salicylate of caffein, and musk are to be recommended. The bichloride of mercury and phenic acid internally have been commended as germicidal, as have also inhalations of oxygen and ozone.

In spite of the most energetic treatment these unfortunate patients seemed doomed to die, and in view of the futility of all former kinds of treatment he thought that we should turn to the new serum therapy for a remedy in this affection. In these cases he recommended the employment of the streptococcus antitoxic serum, as the older treatment had failed so signally. This streptococcus antitoxin can do no less, and it is hoped that it will do a great deal more than other methods.

DISCUSSION.

Dr. Northrup reported a similar case in a child 3 years of age, which he had seen at the New York Foundling Hospital. It was not only a beautiful specimen, but was remarkable in the fact that it was the only case that has been seen at that institution, although they have many autopsies, and have been for a long time on the outlook for such cases. He also emphasized the difficulty of diagnosis, and said that the case which he reported was unrecognized in life, although it had been carefully examined and watched by excellent clinicians.

Dr. Holt confirmed the remarks of the previous speakers as to the rarity of the disease in children and the great difficulties met with in diagnosis.

Dr. Osler said that the rarity of ulcerative endocarditis was generally recognized. He had met with very few cases of endocarditis in infants, associated with rheumatism, and it was remarkable that so few cases of simple endocarditis were met with in infants after rheumatism ; therefore it is not surprising that so few cases of the ulcerative form should be seen.

Dr. Crandall, of New York, read a paper on **The Occurrence of Influenza in Children, with a report of Local Epidemics.** He gave a very interesting account of the occurrence of influenza in children during previous epidemics. He then reported in detail the history of several local epidemics. In one case where seven members of a family of nine contracted the disease, and also other families, in which the appearance of the disease in one member was followed by its appearance in several others.

He discussed the characteristics of the disease in infants, the symptoms being about the same as in older children, beginning with a high temperature which came down shortly and the disease ran a mild course. The most serious complication in infants he found to be the result of the interference to nursing.

Dr. Seibert, in discussing the paper, said he had noticed that in the beginning children suffering from influenza often had a very high temperature, but it shortly fell, and the disease ran the usual course which it does in adults. He reported three cases which occurred in his own family; one, an older child, came home from school with a very high temperature, 106°, which soon dropped, and in three days she was able to go out. A younger child began in the same way, but the disease was more prolonged on account of pneumonia which complicated the attack.

At the Second Session DR. A. CAILLÉ, of New York City, read a paper on the **Local Treatment of Tubercular Meningitis by Tapping the Vertebral Canal.** The author reported 21 cases. Of the 21 cases, two were injected with fluid after about 20 c.c. of spinal fluid were drawn off, namely cases 8 and 16, both cases of tubercular meningitis.

In the first case a solution of salicylate of soda was injected, in the second a solution of iodoform in water. In neither was very much benefit obtained. In most of the cases the pressure of the fluid was such as to force out the piston of the syringe. In only two cases did a rise of temperature follow the puncture. No difficulty was encountered in puncturing, and no anæsthetic was employed. In no case did the fluid aspirated contain blood, and no unpleasant after effects of any kind were noted. Of the six cases of tubercular meningitis, tubercle bacilli were found in four of them, and not found in two of them. A careful study of the reports on lumbar puncture which have appeared up to date will certainly convince the most skeptical that Quincke's puncture is a method of diagnosis which is simple, safe and usually easy of performance.

The author presented a tabulated list of cases showing the condition of the cerebro-spinal fluid in various affections. In the majority of cases the fluid withdrawn was examined for sugar, albumin and bacteria. The clinical diagnosis established thereby was verified by autopsy in every case where autopsy was obtainable, thus establishing the procedure of greatest value in arriving at positive diagnosis.

In instances of tubercular meningitis thorough washing of the subarachnoid space is necessary to make an impression on such cases, and the author proposed at the next opportunity to lay bare the dura by removing a button of bone by trephine and irrigating the subarachnoid space from the seat of lumbar puncture upward, the fluid escaping through an opening in the dura. Irrigation by the shorter route through the lateral ventricles will probably not reach the convexity and hence is inadequate.

DR. ARTHUR H. WENTWORTH, of Boston, read a valuable paper, showing much original research, entitled **Some Experimental Work on Lumbar Puncture of the Subarachnoid Space.** He summarized the results of his experiments as follows: (*a*) Normal cerebro-spinal fluid contains neither cells nor fibrine and is perfectly clear. (*b*) In cases of meningitis, the cerebro-spinal fluid is invariably cloudy when withdrawn. The degree of cloudiness is to some extent proportionate to the amount and character of the exudation in the meninges. (*c*) The cloudiness is caused by cells. The character of the cells differs with the variety of the meningitis. After withdrawal, more or less fibrine is formed in the fluid. The presence of the cells and fibrine is pathognomic of inflammation in the meninges. (*d*) The cloudiness is oftentimes so slight that close observation is necessary to detect it. (*e*) The operation is not difficult to perform on infants and children. It is not dangerous if strict cleanliness is observed. (*f*) The differential diagnosis between the various kinds of meningitis can be made by microscopical examination of the sediment, by cultures taken from the fluid, and by inoculation of guinea-pigs. (*g*) Inoculation experiments afford the surest means of determining tubercular meningitis. It is of value to distinguish between the varieties of meningitis in order to determine if tubercular meningitis recovers. (*h*) In the normal fluid a faint trace of albumin is present, about one-fiftieth of one per cent or less by quantitative analysis. In meningitis the amount of albumin is increased and has varied from one-thirtieth to one-tenth of one per cent. (*i*) In one case, a diagnosis of general infection with the staphylococcus pyogenes aureus was made from cultures taken from the cerebro-spinal fluid.

The experiments were begun five months ago, and were undertaken with the object of determining whether this new procedure was dangerous, and incidentally the other features of the report presented themselves during the course of the experiment. In all, many punctures were made, and in not *a single case* where there was inflammatory trouble in the meninges was the fluid perfectly clear; and this fluid invariably contained cells and fibrine. The early cases were done, of course, on normal infants, and the results proved that he procedure was perfectly harmless.

The author made a careful report of twenty-nine cases of all kinds, and laid especial stress on the value of the different kinds of cells found in the fluid. In cases of tubercular meningitis the predominant cell was the lymphoid cell, the small, mononuclear, round cell. In purulent meningitis the polynuclear leucocyte was predominant.

Dr. C. G. Jennings, of Detroit, reported a case of **Lumbar Puncture of the Subarachnoid Space.** This case was of interest because of the accident that occurred from injudicious manipulation; the sharp rise of temperature following the operation; and the micro-organism found in the cerebro-spinal fluid.

The patient, a girl aged six years, was a strong healthy girl until about 8 weeks before her death.

At the time of the puncture she was comatose, with dilated, uneven and sluggish pupils, general tremor, and the usual phenomena of the stage of effusion.

Lumbar puncture of the subarachnoid space was made and 24 c.c. of fluid withdrawn. Too much force was accidentally used in depressing the needle, and it broke deeply in the tissues of the back. A deep incision, and a search as thorough as seemed justified, without a more careful antisepsis than seemed at that moment possible, failed to find the needle.

A few hours after the puncture, the temperature rose to 104.8°, and the pulse to 136. Up to that time the temperature had not risen above 101° or the pulse above 100. The child aroused somewhat from the coma, and the tremor ceased.

On the day following the puncture was repeated, and 8 drachms of fluid withdrawn. After the second puncture there was a partial return of consciousness and a general temporary relief of the pressure phenomena. She died, however, two days later. There was no autopsy.

Bacteriological examination demonstrated the presence of the pneumo coccus.

DISCUSSION.

Dr. Fruitnight spoke of certain cases of sudden death after lumbar puncture, as recently reported, and said that perhaps the operation was not so devoid of danger as some might think. Dr. Wentworth replied that the four cases of sudden death after lumbar puncture, referred to by Dr. Fruitnight, were cases in which this procedure was not indicated, two being cases of cerebral tumor and two of uraemia, and therefore he did not consider that they were proper class of cases to compare with the others in determining the value of this operation.

Dr. Holt thought, from his experience in two cases, that it would not be of great value for the purpose of making a differential diagnosis between the different forms of meningitis.

Dr. Caille, in closing the discussion, said that there was no doubt in his mind of the diagnostic value of this procedure. In making the puncture he only used a glass syringe as a handle, as it was very inconvenient to insert a needle without having a good firm handle attached to it.

Dr. S. S. Adams, of Washington, reported four cases of **Tem-**

porary Insanity Following Typhoid Fever. Two were cases of melancholia and two of mania. The first case was a white boy, male, aged 9 years. He had been ill two weeks before admission to the hospital with chilliness, fever and headache. His appetite was capricious and his bowels constipated. The patient had an attack of typhoid fever, which was rather severe and somewhat prolonged. The rise of temperature was sufficient to permit a slight delirium to be present a greater part of the day. The delirium was always absent when the temperature fell below 101° F.

Nothing unusual was noticed until twelve days later, when the boy became quite emotional, worried about his condition, tried to get out of bed, and talked at random. His mental condition grew rapidly worse, although his physical condition continued to improve. He became nervous, restless, and at times maniacal, although his temperature had been normal for several days. He would kneel at the foot of his bed and preach until he fell back from exhaustion. He alternately cried, prayed, laughed, swore or sang. He slandered the nurses and doctors, tore his clothing and bedding into shreds, and urinated and defecated in bed. He continued to grow worse for one month, when he began to improve. He did not seem to distinguish persons, and under the great mental strain he became very weak, but he took enormous quantities of solid food in addition to two quarts of milk, and seemed to digest the food very well. He grew stronger, and seemed a trifle more intelligent and reasonable, although his paroxysms of emotion persisted, and his profanity was astounding. He was taken home, in spite of advice to put him into an institution for the insane, and for the next few weeks did much damage during his maniacal attacks. At this time his mental condition gradually improved, and within a couple of months of his discharge he had fully recovered.

The author reported two more cases which were similar in character, one a boy, aged 7 years, who recovered some weeks after his departure from the hospital, and the other, also a boy, aged 7 years, whose condition was very bad after an attack of fever which began July 4, 1895. After his recovery from the typhoid fever there were no evidences of abnormal physical condition, but his intellectual faculties were abnormal. For the first few days he stayed in bed most of the time, rocking back and forth, picking his lips and scratching his head. Whenever any one spoke to him he would repeat one sentence over and over again. His voice was whining and monotonous. His movements were all aimless. Every little while he would grow suddenly very quiet, but would soon begin screaming and shrieking, which was impossible to stop. He begged for something to eat continuously, even though his hands were full of food at the time. He was kept in bed about ten days without any perceptible mental improvement. He did not seem able to concentrate his thoughts on anything but food. The attacks of screaming became less frequent and less severe, and in a few weeks an improvement was noticed, and he soon became entirely well.

Another case was a boy, 12 years old. He was admitted to the hospital September 4, 1895, in the last week of typhoid fever, and in ten days his temperature became normal. He began four days later to scream and talk incessantly, and his hallucinations did not begin to clear up until September 24th, when a marked improvement was noticed, and in a short time he was well.

DISCUSSION.

Dr. Crandall reported a similar case, in which an attack of typhoid fever was followed by hallucinations for five weeks in a child ; also another case after diphtheria.

Dr. J. C. Wilson recorded two cases, ages respectively 15 and 9 years, of maniacal insanity following typhoid fever.

Dr. Osler spoke of the favorable prognosis in this class of cases.

Dr. Christopher reported a case of aphasia beginning in a child of 2 years and at the height of typhoid fever. The aphasia lasted about three weeks, and began at the end of the second week of the sickness, and made a good recovery.

Dr. Packard, of Philadelphia, reported a case of endothelioma of the brain, and showed, at the last session, the pathological specimen. He was followed by Dr. Henry Jackson, of Boston, with a very valuable paper on **Nasal Feeding in Diphtheria.** The author gave his experience with gavage or forced feeding in diphtheria, especially in those cases of laryngeal diphtheria in which the O'Dwyer tube had been inserted. The method so impressed the majority of physicians in attendance at the hospital that it was employed more and more until it became practically the routine treatment in all cases. The routine method was as follows: In every case where intubation was necessary the child was fed by milk introduced by a catheter passed into the stomach through the nose. From September 1, 1896, 89 cases were intubated, of whom 56 recovered, giving a mortality of 27 per cent. Of course all received antitoxin.

He called attention to the fact that the greatest disadvantage of intubation over tracheomy is the difficulty in feeding. To keep up the proper nourishment of the child was very important, and this method, in his opinion, overcame the only objection that intubation had as compared to treacheotomy. He referred to the work of others in this connection, and gave the method as used at the Boston City Hospital as follows : The child is carefully pinned in a blanket, so that it cannot move its arms. It lies on its back. A glass funnel is attached to the soft rubber catheter with the intervention of a piece of glass tube. The well-oiled catheter is passed quickly but quietly along the floor of the nose. Just as it passes into the oesophagus there is usually slight resistance and choking, otherwise no trouble is found. A small amount of water is allowed to flow down, and, without allowing any air to enter, the milk and medicine are poured immediately into the funnel. At the end of the feeding again a little water is given. Children are usually perfectly quiet as soon as the tube has been passed, and the results with this treatment have been excellent. He summarizes the advantages as follows : First, a definite amount of food and stimulant is given. Second, the child is not as much disturbed as by constant and often ineffectual efforts to force it to take even a small amount of food. Third, in the intervals between feeding the child is not disturbed, and, as it has received a good meal, it usually sleeps quietly. These arguments apply both to cases in hospital and cases in private practice, and the hospital cases have the additional advantage in saving much time and not requiring the undivided attention of a nurse. There is usually no difficulty in passing the tube, and it is also used in other cases, namely, in post-diphtheritic paralysis, where deglutition is interfered with ; and in those cases that refuse all nourishment from various causes, namely: pain, lack of desire to have food, prostration and malnutrition. The results are usually very satisfactory. In closing, he reported a very brilliant case in private practice.

Dr. William Osler, of Baltimore, closed this session with a paper **On the Classification of the Tics or Habit Movements.** Nowhere is the confusion more evident than in the classification of diseases of the nervous system, particularly in disorders characterized by abnormal movements. Even in an affection so well studied as chorea, it is very difficult to make a classification that will meet with universal approval.

Important studies have been made of late years upon the group of muscular disorders, which have been described as pseudo-choreas or habit spasms, and in extending to them the name of tic, the Salpetriere School has developed a nomenclature and division somewhat confusing to our ears.

The distinguishing factor in the entire group is the habit of repetition, whether of motion or of idea, which, while influenced or controlled to some extent by the will, occurs in response to a sort of impulsion in the case of muscular movements, and in the case of imperative ideas is a sort of obsession.

The following is the classification of the tics adopted by recent French writers:

I. Simple tic or habit spasm. These are the common cases of spasmodic movements, chiefly of the facial muscles, which are to a certain extent under the control of the will. In very many of these cases the affection seems to begin as a childish trick. The muscles of the face and of the neck are most commonly involved, then those of the shoulder, girdle and arms, less frequently those of the legs. The cases are very often confounded with chorea minor, from which they are distinguished by much greater brusqueness of the movements, which have a lightning-like rapidity. They are also more or less systematic, limited to certain muscle groups, as of the face and neck, or of the shoulder, girdle muscles and platysma, or the muscles of the thigh. In many of the cases there are sources of irritation, such as adenoids, or errors of refraction, relief of which may be followed rapidly by cure. In addition to these localized forms, here may be also grouped as a generalized tic or habit spasm those interesting cases in which there are sudden electric-like jerkings of the muscles of the trunk and extremities, making the patient start for an instant, but which pass away with great rapidity. Both children and adults are affected.

II. Tics with super-added psychical phenomena. Of this form, in addition to the ordinary motor disturbances of simple tic or habit spasm, there are explosive utterances and cries and imperative ideas. Of these the anomalies of language are the most interesting. They may be simple explosive exclamations, which is the most frequent, or obscene words may be spoken, usually at the time of the movement. In other instances actions are mimicked.

III. Complex co-ordinated tics. Many are forms of habit movements, which differ, however, from the simple tic in the more complex character of the action performed, which may be one of everyday life, but which is repeated without obvious cause, and which in most instances can be controlled by an effort of the will.

IV. Psychical. An imperative idea is the psychical equivalent of and has an origin similar to a motor tic. The *fixed ideas*, impelling the victim to touch a certain object, or causing him to be haunted by a dread of the use of certain words, or making him count so many numbers before he can do a certain act, is the counterpart of the irresistible musculation which leads to the constant repetition of one of the many acts which we have been considering. The two processes are, as we have seen, often, though not necessarily, associated, though in some of the subjects of imperative ideas motor features are marked.

Report of the Committee upon the Collective Investigation of the Antitoxin Treatment of Diphtheria in Private Practice.—A report which substantiated BEHRING's claim in regard to the specific curative action of diphtheria antitoxin was presented. The analysis was based upon over 5,000 cases, treated in private practice.

A case of recovery after the use of diphtheria antitoxin was reported by DR. PACKARD, and then DR. S. S. ADAMS, of Washington, read an extremely instructive and valuable paper on the **Comparative Results of the Treatment of Diphtheria, with and without Antitoxin, in the District of Columbia.** The period covered by this report was from Jan. 1, 1895, to April 15, 1896. During this time eighty-three physicians treated 176 cases of diphtheria with antitoxin. Of these, seventy-one reported 160 cases in all, while twelve, who had treated the remaining sixteen cases, did not respond. The latter, however, were covered in this report, as sufficient information was gleaned from other sources to warrant classification. During the same time eighty physicians treated 135 cases of diphtheria without using its antitoxin. A third class of twenty-two physicians used the antitoxin in 56 cases, but did not use it in 38 cases. The investigation was confined to children. The youngest child receiving the antitoxin was aged 10 months, the oldest 16 years, the average being 6 51-100 years.

The youngest child treated without antitoxin was four months, the oldest 15 years, the average age being 5 96-100 years. The diagnosis was formed by a bacteriological examination in 159 cases, and was made without it in 17 cases.

The duration of membrane when antitoxin was injected is as follows: Six hours, 2 cases; 12 hours, 3 cases; 24 hours, 26 cases; 36 hours, 12 cases; 2 days, 31 cases; 3 days, 29 cases; 4 days, 21 cases; 5 days, 9 cases; 6 days, 8 cases; 7 days, 11 cases; 8 days, 1 case; 9 days, 1 case; 10 days, 1 case; 11 days, 1 case; not stated, 20 cases. Total, 176. Thus 103 cases received the injection on or before the third day of the disease. One injection was administered in 7 of 119 cases; 2 in 34 cases; 3 in 5 cases; 7 in 1, and the number of injections was not stated in 17 cases. Intubation was performed 12 times and tracheotomy once, the latter after the expulsion of an intubation tube.

The author then gave a detailed report of many cases, and concluded with the following summary of the results:

"During the year ending Jan. 30, 1894, before the introduction of antitoxin, 432 cases of diphtheria were reported in this district, and the average age of those attacked was 8 7-10 years. There were 172 deaths, the percentage of deaths to cases being 39 8-10 per cent. During the 15½ months ending April 15, 1896, after the introduction of antitoxin, 311 cases of diphtheria were reported, and the average age of those attacked was 6 23-100 years. There were 73 deaths, the percentage of deaths of all cases being 23 44-100.

"During this same period 135 cases were treated without antitoxin, the average age being 5 96-100 years. There were 47 deaths, the percentage of deaths to all such cases being 34 81-100 per cent., only 4 99-100 per cent less than when antitoxin was unknown.

"During this period also 176 cases were treated by the injection of antitoxin, the average age being 6 51-100 years; there were 26 deaths, the percentage of deaths of all cases receiving antitoxin being 14 77-100.

"There were twenty-two physicians who used antitoxin in 56 cases, but did not use it in 38 cases during the same period. In the former group there were 14 deaths, the percentage of deaths to such cases being 25; in the latter group there were 11 deaths, the death rate being 28 94-100 per cent."

This report was followed by the valuable contribution of DR. A. SEIBERT and DR. F. SCHWYZER, of New York City, on **The Cause of Sudden Death After Antitoxin Injections,** which appeared in full in the *N. Y. Medical Journal, 1896, lxiii, 708.*

In attempting to find the cause of sudden death after a hypodermic injection of antitoxic serum, all arguments point to the fact that death is caused by a something introduced under the skin of these patients, and not by shock. The labored respiration, the cyanosis, and the subsequent cessation of breathing reported in these cases give the clear picture of death from suffocation.

The second conclusion arrived at *a priori* is that this something injected under the skin could have exerted its deleterious action only by entering the circulation.

The first possibility to be thought of was that the serum itself might do the killing, either by entering the circulation too rapidly and in too large a quantity by an opened vein, or by poisonous substances having formed in the antitoxin in consequence of decomposition. Therefore the first series of experiments had to determine :

1. Whether large quantities of *fresh* antidiphtheric serum brought directly into the blood current of an animal could produce unfavorable symptoms or death.

2. Whether large quantities of *old* antitoxin could cause trouble when used in this manner.

The second possibility to be thought of as a factor in causing sudden death after an antitoxin injection is the *carbolic acid*, said to be used in preserving the antidiphtheric serum. Here it would be necessary to work with exact quantities and to determine how large a quantity of a given carbolic acid solution could cause unfavorable symptoms and death. Beginning to experiment with small quantities and weak solutions, and gradually increasing the amount and strength, would ultimately lead to the desired result.

The third possible factor as a cause of sudden death after the use of antitoxin is *air*, a quantity of which is found with the fluid in every syringe used for hypodermic injections. Here again it was necessary to first determine if air brought directly into the blood current in limited quantities could cause pathological phenomena, then to find the amount of air necessary to cause disturbances or death, and at last to ascertain under what characteristic pathological and clinical manifestations such results would show themselves.

All the experiments were made by means of intravenous injections, executed through Luer's blunt injection cannula, filled with sulphate of magnesium (to prevent coagulation of blood), shut off by means of a stopcock, and tied firmly into the internal jugular vein by two ligatures.

From the start the observations were confined to the changes brought about in the animals during and immediately after the injections, and every animal was pronounced unchanged in case its respiration and heart action were not altered during the twenty to thirty minutes after an injection. The action of the heart was observed in most animals by direct inspection of this organ before, during and after each injection, through a window cut into the thorax by the resection of two ribs. Besides, the heart's action was observed by the stethoscope, and so could readily be judged as to rhythm and strength.

Every animal was first narcotized with a mixture of chloroform, alcohol and ether, then tied down upon its back, and then the throat and thorax were exposed by removing the skin by an incision along the median line from the chin down to the diaphragm. Thus they were enabled to perceive any change in the circulation, especially as to a possible cyanosis. Before making an injection the effects of the narcotic were allowed to disappear so far that the corneal reflexes could be elicited. In no case was the narcotic continued after this response.

In reviewing their experiments they concluded :

1. Large quantities of fresh and of old antitoxic serum injected quickly into the venous circulation of guinea pigs and rabbits did not cause the slightest reaction.

2. Carbolic acid in one and two per cent. solutions injected in from one to four cubic centimetre doses in the same animals invariably caused characteristic convulsions immediately, differing only in intensity and duration, proportionate to the quantity and concentration of the solution.

3. Air injected into the venous circulation of such animals invariably caused difficult respiration, rapid increase in the heart's action, cyanosis, and ultimately death. The intensity and rapidity with which these symptoms appeared were in direct proportion to the amount of air injected into the vein at one time in so far that a larger quantity would cause death quicker than a smaller one; a smaller one injected quickly and at once would kill more speedily than a larger one injected slowly and at given intervals. A smaller quantity of air might cause speedy death (in five to ten seconds) if passed at once through the right heart into the pulmonary artery, causing complete occlusion, and a larger quantity remaining in the heart might not prove fatal for from five to twenty minutes.

They therefore concluded : 1. Antitoxic serum does not seem to be capable of causing threatening symptoms and speedy death, even when brought quickly into the blood current in very large doses.

2. The carbolic acid used in preserving the antidiphtheric serum must be in such a weak solution as to be entirely unable to cause the characteristic carbolic convulsions produced in every one of the second series of experiments. The absence of these convulsions in the cases of sudden death in patients, the entirely different group of symptoms reported in them, and the fact that guinea-pigs and rabbits will survive even very large and concentrated doses of carbolic acid injected into a vein, lead us to discard the possibility of this drug having caused the reported deaths.

3. Even very small quantities of air will cause severe disturbances and ultimate cessation of breathing in every animal experimented upon. These disturbances are entirely analogous to the symptoms reported as preceding the sudden deaths after antitoxin injections. Air is found alongside of the fluid in every syringe used

for hypodermic injections, and being pressed under the skin with the fluid may readily come in contact with a punctured cutaneous vein and so may enter the blood-vessel and the right heart, even before the serum has been absorbed.

In view of these facts and of the experiments, they expressed the firm opinion that the sudden deaths reported after antitoxin injections were caused by injected air and not by the antidiphtheric serum.

The Fourth Session was opened by Dr. R. G. Freeman, of New York City, with a paper entitled, **Is Low Temperature Pasteurization of Milk, at about 67° C., Efficient?** He made a number of experiments that seemed to prove that Pasteurization of milk at 67° C. was efficient. He called special attention to the point that Pasteurization meant not only low temperature sterilization, but *rapid* cooling afterwards. He showed an apparatus for this purpose which was simple, cheap and practical.

Dr. C. W. Townsend, of Boston, read a paper on **Thigh Friction in Children Under One Year.** He said that although Jacobi called the attention of the profession to masturbation in infants some twenty years ago, the fact that its occurrence in infants is not mentioned in most text-books, and that in his cases the true nature of the trouble was not understood by the parents or by the physicians led him to report these cases.

He reported the details of five cases, all beginning in infants under one year of age, at which time it seemed incredible that sexual appetite should exist.

The first case, which was a typical one, was twelve months old, and at the age of eight months the infant was noticed crossing her right thigh over the left, closing her eyes and clenching her hands. After a minute or two this action was followed by complete relaxation with sweating. These "attacks," as the mother called them, occurred about once a week until four days ago, since when they have occurred as often as every half hour during the day. The infant was well nourished and well developed, and showed no irritation about the genitals.

The last case was a girl now six years old. At the age of six months it was noticed that whenever she was placed in a high chair she moved to the front of the chair and turned sideways, so that the edge of the chair came between the thighs. She would then move up and down, become red and even purple in the face, sweat profusely and seem exhausted afterwards.

In the summary he said that all of the five cases of thigh friction began during the first year of life, the youngest being six months old. All were in females, and in all the nature of the trouble, although perhaps suspected, was not fully recognized by the parents.

Dr. Henry Lafleur, of Montreal, read the notes on a case of **Insolation in an Infant, aged 13 Months.** The patient, a boy, aged 13 months, was brought to the hospital on an intensely hot and sultry day; the thermometer registered over 90° during the middle hours of the day. He was taken suddenly ill, and had several convulsions. When seen on admission he had been insensible for an hour and a half. The child was quite insensible ; the skin was very pale ; the lips, hands and ears were cyanosed, the pupils widely dilated,and insensible to light. There was conjugate deviation of the eyeballs to the left. The axillary temperature was 105° F. The pulse thready and too rapid to be counted, the respirations 50, gasping and shallow. Apparently the child had but a very short time to live. The rectal temperature was found to be 107°. The child was placed in a cold bath (54° F.) a cold wet towel wrapped around its head, and vigorous friction of the body and extremities carried on, with frequent affusions of ice water to the head. At the end of five minutes the rectal temperature was again taken and found to be 108° F. The same measures were carried on for 15 minutes, and at the end of that time the rectal temperature was 101° F. The skin was now bright red, the cyanosis had disappeared, the pulse was about 100, and the respirations easy. The child was removed from the bath and put to bed. In half an hour after the bath the rectal temperature was 98 1-5°, at 2.10 p. m. 95 1-5°, and the patient was resting quietly, though still insensible. An enema of beef-tea and brandy was administered after the bath.

Directions were given that a bath at 80° F. should be given if the temperature rose to 102 2-5° F. Such a bath was given at 5.30 p. m., and again at 10 p. m. After the third bath, 10 p. m., the child seemed to take notice of objects around him, and in two days was convalescent.

The case was of interest chiefly on account of the age of the patient, and as an illustration of the happy effect of timely and energetic hydro-therapy.

Dr. Blakader, of Montreal, reported a case of Enlargement of the Liver in a child of thirty months, with symptoms closely resembling those of typhoid fever ; and Dr. Northrup reported a case of Cerebro-Spinal Meningitis followed by Hydrocephalus, death and autopsy.

The last session, held on Wednesday morning, was devoted to the exhibition of pathological specimens. **Congenital Heart Lesions** were shown by Drs. Caillé, Rotch and Packard. Dr. Griffith showed a case of Perforation of the Septum Ventriculorum; Dr. Osler, two cases of Adherent Pericarditis, in one of which there was aortic insufficiency, and pulsation of the aorta simulating an aneurism; Dr. Holt showed one case, and Dr. Freeman two cases, of Adherent Pericardium. Dr. Wentworth exhibited specimens from a case of General Tuberculosis, in which there was enlargement of the heart, an open ductus arteriosus, and in the walls of the right ventricles there were fibrous nodules. Dr. George N. Acker, of Washington, showed a specimen of **Organic Disease of the Heart following Scarlet Fever** from a girl, aged 8 years. The child had always been nervous, and at five years of age had scarlet fever complicated by dropsy. Since then she had pains in her back and legs at irregular intervals, and had occasionally choreic movements with contracture of the hands and feet.

On admission to the hospital she was anæmic and poorly nourished, and had marked choreic manifestations. She improved rapidly under rest in bed and a moderate diet, and the internal use of iron, quinine, and strychnia with arsenic, for three months, when the pains in her joints returned.

A strong action of the heart continued for several days, and the murmur over the base grew more distinct. In a month the area of visible cardiac impulse was much increased. At the apex there was a double murmur which became more marked toward the axilla. The other sounds were muffled and prolonged. The area of cardiac dullness was increased.

In May, four months after admission to the hospital, she had a double pneumonia, from which she slowly recovered. It left her with a heavy action of the heart and a purring thrill over the base. The apex beat was ¾ of an inch to the left and 1½ inch below the nipple. The murmur was most distinct at the apex, and transmitted distinctly to the axilla, and slightly to the aortic region.

In November she had been sitting up in bed for some time. She was very pale, became fatigued easily, and the least exertion threw her into a perspiration.

On November 29th she was taken suddenly, after dinner, with severe dyspnoea, rapid and irregular pulse, marked cyanosis of the face and hands, and died in a few minutes.

Post Mortem Examination.—Body emaciated. Very little adipose tissue present. The lungs were congested and compressed.

The liver was somewhat larger than normal. The heart was enormously enlarged, weighing 15 ounces, and showed extensive pericardial adhesions, hypertrophy and dilation of the left ventricle, and small vegetations on the aortic and mitral valves.

Dr. Caille showed a case of cicatricial stenosis of the larynx; Dr. Snow a case of papilloma of the larynx; Dr. Holt a case of perforative appendicitis, and Dr. Adams, of Washington, a case of **Congenital Pharyngo-Oesophageal Stenosis.** The patient was a colored female, aged 4 months, and the first signs of difficulty in swallowing liquids was noticed two weeks before admission to the Children's Hospital, April 27, 1896. At this time the child was comatose, much emaciated and very feeble, but it was impossible for the child to swallow liquids, and all attempts to pass even the smallest catheter proved futile. A digital examination showed that the stricture existed at a point just below the line of the epiglottis. The child was kept alive by nutritive enemata, but she rapidly emaciated, and died on May 11 of exhaustion.

Autopsy.—The autopsy showed that the upper part of the oesophagus at its junction with the pharynx ended in a blind pouch.

Dr. D. S. Lamb, of the Army Medical Museum, made the following report: "Just about the pharyngo-oesophageal junction the pharynx ends in a wide *cul de sac*, except for a pin-hole opening, which may have been made in removing the specimen, or in opening up the oesophagus. The upper border of the oesophagus is of the same width as the tube lower down, as if there had been a correspondingly wide *cul de sac* here. The specimen does not show any communication between the larnyx and oesophagus, direct or indirect. There is no evidence of inflammation."

Dr. Adams then showed a **Tubercular Abscess of the Brain** from a colored boy ten years old. The symptoms began with headache about one year ago, after an attack of typhoid fever. This was followed by weakness of the lower extremities, muscular atrophy and mental deficiency. The headache became constant, and an ophthalmoscopic examination showed choroiditis and choked discs. There was a paralysis of the oculo-motor. Convulsions began on March 26th and continued at irregular intervals until September 26th, when left hemiplegia was noticed. Cutaneous hyperaesthesia was marked. His eyeballs became more prominent and his head seemed to be enlarging in the antero-posterior diameter. He became maniacal and died on January 17th.

Autopsy.—Right half of brain showed rather firm, nodular masses surrounded by much softening. Yellowish floculent material involved the upper part of the frontal gyrus, which on section showed a yellowish turbid liquid. The whole hemisphere was quite oedematous, and the broken down material involving the lateral ventricle of the fornix was quite soft. The left hemisphere was somewhat congested and the left lateral ventricle filled with bloody serum.

There was an atrophic opening in the right coronal suture of the skull ; thirteen similar ones in the lower part of the right parietal bone ; three along the line of sagital suture and one near the right frontal eminence. The orbital plates showed similar atrophic openings and other parts of the skull showed atrophic changes.

There was a large amount of straw-colored serum in the pericardium, but the heart was otherwise normal. There was extensive tuberculosis of both left and right lung, the upper surface of the diaphragm, the bronchial glands and the mediastinal space. The liver was fatty and had a nutmeg appearance. The spleen was enlarged and full of cheesy tubercles. The splenic glands along the pancreas was enlarged and cheesy. Both kidneys were enlarged and congested.

There were ulcers throughout the lower part of the ileum near the ileo caecal valve. The vessels are injected and small tubercles are seen in the last foot of the ileun. There was one adhesion of the bowels just under the ulcer near the caecum.

Dr. George N. Acker, of Washington, showed specimens from a case of **Sarcoma of the Thymus and Bronchial Glands** from a white girl, aged 7 years. The brother and sister had hereditary syphilis. For five weeks before admission the child had lost flesh, and a large swelling developed on the right side of her neck. The left side to the waist and the left side of the face and head became oedematous. The left arm was enormously swollen. The next day the right side of face and the right arm began to swell, and at 11 p. m. she quietly died.

Post Mortem Examination.—Body well nourished. The left mammary region was infiltrated with fatty tissue to the extent of two inches. The left axillary space contained a large growth which extended over the clavicle, pressing upon the left subclavian vein. The right axilla presented a somewhat smaller growth. There was a large soft lobulated tumor in the superior mediastinum, surrounding the trachea and great vessels, and extending to and involving part of the upper lobe of left lung. The lungs showed some old and some recent pleurisy. Both were oedematous. Microscopical examination of the growth showed it to be large round-cell sarcoma.

NOTES ON TREATMENT.

DIARRHŒA.

Although diarrhea is one of the most frequent and characteristic symptoms of intestinal disease, it should be remembered that it is only a symptom, and its successful treatment will depend upon a proper recognition of the cause.

Chronic Diarrhea.—When the diarrhea is protracted, the astringents, lead, tannin, gallic acid, alum, etc., are indicated. Nitrate of silver does better in many cases. One-fiftieth to one-thirtieth of a grain in two drachms of distilled water (dark bottle) every two hours. In chronic cases only, coto, from half a minim to a minim of the fluid extract will sometimes act favorably.—A. JACOBI.

Certain diarrheas depend upon other causes than improper food. It may be the result of typhoid fever, dysentery or malaria; or it may depend upon disturbances of the circulation from disease of the liver, heart or lungs. Therefore, in no case should the treatment of a diarrhea be undertaken until these causes are excluded by a careful examination.

Cholera Infantum is the result of a profound and rapid poisoning from the absorption of toxines produced in the intestinal tract, usually from the fermentation of food. Therefore, the indications for treatment are not opiates, but the rapid elimination of these poisons by saline cathartics, abundance of pure water, washing the stomach and high and frequent irrigations of the bowels with such stimulants as will enable the patient to overcome the poison already absorbed. The best stimulants are whisky, camphor and musk. Whisky should always be diluted; camphor (one-fourth to two grains every hour) may be taken with glycerine and suspended in mucilage; and musk (one grain every half hour) can be suspended in mucilage. Jacobi recommends in threatening cases of heart failure strong coffee, hot or iced, according to circumstances; or the injection into the bowel through a long flexible tube of hot water with some alcohol and one or more drops of tincture of opium.

Simple Diarrhea, of which the ordinary summer complaint is the most frequent example, is usually due to intestinal irritation from the decomposition of food, and, therefore, the *first indication* is to get rid of this fermenting food and the poisons produced by it. The most practical method is to give a full dose of castor oil, or one-tenth of a grain of calomel every half hour until one grain is taken and to follow this with a saline cathartic. The *second indication* is to remove the cause, namely, the food. All milk and other food which ferments easily should be withheld for a day or two, and its place taken by plenty of pure water, which assists the elimination of the poisons, and by such food as undergoes decomposition with difficulty, or such food as is less likely to be contaminated with bacteria. An excellent preparation for this purpose is a mixture of

Thin barley water,	six ounces;
Common salt,	five grains;
White of	one egg.

Mix, sugar, if necessary, with as little air as possible, and give every two to four hours, according to the age of the child.

This can be followed in a few days by milk from which the casein is removed, by rennet or dilute acid (whey). Salt and the egg albumen may be added, if necessary, to the whey.

The *next indication* is to remove as rapidly as possible any ptomaines which may be present in the lower bowel. For this purpose the best means is a high irrigation of the bowel after each passage with a warm normal salt solution (one drachm of salt to quart of water), to which may be added a little borax or bicarbonate of soda. And, *finally*, such drugs as retard or prevent fermentation may be given by mouth :

℞ Bismuthi subnitratis, ʒ ii.

Divide into twelve (12) powders, and give one every two to four hours.

℞ Sod. benzoat, ʒ ii;
Aquae, ad ℥ iii.

Mix. Sig. One teaspoonful every two hours.—GUAITA.

℞ Pepsini saccharati, ʒ i to ii;
Bismuthi subnitrat., ʒ ii.

Mix. Divide in chart. No. xii.

Sig. Give one powder before each nursing or feeding to an infant of ten months.—J. LEWIS SMITH.

℞	Acidi hydrochlorici dil.,	♏ xvi;
	Pepsini puri,	ʒ i;
	Bismuthi subnitratis,	ʒ ii;
	Syrupi (or glycerini.),	f. ʒ ii;
	Aquæ,	f. ʒ xiv.

Mix. Sig. Shake bottle. Give one teaspoonful before each feeding or nursing to an infant of ten months.—J. Lewis Smith.

℞	Tinct. opii deodorat.,	gtt. xvi;
	Bismuthi subnitrat.,	ʒ ii;
	Fairchild's essence of pepsin,	℥ ss;
	Aquæ,	℥ iss.

Mix. Sig. Shake well, and give one teaspoonful every three hours between feedings.—J. Lewis Smith.

Jacobi has obtained the most valuable services in many cases from resorcin in doses of from a quarter to one-half of a grain in solution, or as a constituent of a powder containing bismuth, chalk, or opium, given every two hours.

Other valuable anti-fermentatives are thymol, listerine, alcohol, creosote, salol, salicylate of soda, naphthalin, bichloride of mercury, etc.

Plenty of fresh air, out-of-doors, is always indicated, and, if there is fever, sponging the body with water, or water and alcohol. Any excess of acid in the stomach must be neutralized, preferably by the carbonate or the phosphate of calcium, in doses of from one to two grains every hour or two.

Abstracts.

NECROSIS OF THE MAXILLA, FOLLOWING ENTERIC FEVER.

Walter Glaisby (*J. Brit. Dent. Assoc., 1896, xvii, 229*) reports the following case :

Annie Perricand, aged 12 years, was admitted into the York County Hospital on October 10, 1894, with a history of typhoid fever, complaining of severe headache over the top and front of head. The temperature on admission was 100°, but in a few days it came down to normal, was then sub-normal, and returned again to normal after about seven days. The patient seemed about to make a good recovery, having a normal temperature for three weeks ; but unfortunately, on November 7, symptoms of a relapse appeared, and the temperature rose to 101.5, and there was some diarrhea.

Her condition was from this time typical of typhoid, and nothing unusual was noticeable until November 19, when the patient complained of pain on the right side of the face, and there was a slight fullness below right eye, with a red flush of the right cheek. The pain and swelling both increased, and eventually a small abscess formed in the outer side of the gum, on the upper and right maxilla. This was opened on December 2, and a quantity of very foul discharge washed away. The temperature, which now was of a somewhat hectic character, began to fall, and though high at night, was from this date always normal, or thereabouts, till the day patient left the hospital.

In all probability this abscess was due to one of the rather common sequelæ of typhoid fever, namely, periostitis ; a condition usually, however, only found in the long bones of the body, and most often on the tibia.

The unfavorable conditions of the mouth during a long course of fever would, without doubt, be a predisposing cause for an inflammatory process in this region, but whether the primary cause may have been an ulcerated gum, or even a diseased condition of one of the teeth, it is impossible to say. The result of this abscess was to set up an extensive sloughing of the gum and cheek of the right side, and eventually led to necrosis of the bone beneath. The teeth began to fall out, and it then became evident that the right half of the hard palate, together with the alveolar portion of the right maxilla, were in a state of necrosis. By the end of January the greater portion of the maxilla became loose, and shortly after separated and came away in pieces. These pieces comprised the palatine and alveolar portions of the right maxilla, and the only remaining tooth on that side of the upper jaw was the first molar, which was then loose and attached merely by the outer portion of gum. This tooth was removed, and the patient was ordered to wash her mouth out daily with boracic acid lotion. She made a good recovery.

STAINING OF THE TUBERCLE BACILLUS IN SECTIONS.

Sheridan Delepine (*Med. Chronicle, 1896, v. 17*) gives the following notes from the Pathological Laboratory of Owens College: The tubercle bacillus can easily be stained in sections by the methods recommended originally by Ehrlich and by Ziehl. Many slight modifications in technical details have been introduced by a large number of workers, but the essential step by which the bacillus tuberculosis can be differentiated from other bacilli consists in the use of mineral acids, such as nitric or sulphuric acid. When bacilli have been well stained with methyviolet, or with fuchsin, it is found that certain dilutions of sulphuric acid and nitric acid will remove rapidly the stain from all the known pathogenic bacilli, with the exception of the bacilli of tuberculosis and of leprosy, which are decolorized very much more slowly.

The use of nitric acid is, however, objectionable when one has to deal with delicate tissues, and even sulphuric acid, diluted with six parts of water, will cause a certain amount of distortion. For this reason bacteriologists have long wished to find a method which would be less brutal than those just alluded to.

Not long before his death, Dr. Kühne, of Wiesbaden, communicated to Dr. Borrel, of Montpelier, a method in which the use of strong acids is done away with. Dr. Borrel, after using this method in some researches in tuberculous lesion, has strongly recommended it in the "Annales de l'Institut Pasteur" (Vol. VII., p. 593).

In this method, after the sections have been stained in the usual way by means of carbolized fuchsin, they are placed for a short time in a solution of hydrochlorate of aniline, and after this they are left in alcohol till quite decolorized, when it is found that, though the fuchsin has been removed from all the tissues, the tubercle bacilli remain deeply stained. This method, therefore, resembles very closely the Gram's method, with this difference that, instead of

Gram's iodine solution being used to fix the stain in the bacilli, in this case it is Kühne's hydrochlorate of aniline which is used.

Dr. Radcliffe being engaged in delicate experiments on the spread of tuberculosis in the laboratory, was advised to try this method, which seemed to present many advantages over the older methods, when a few bacilli only are present in an organ. The details published not being quite sufficient to obtain very satisfactory results in every case, we worked out the details not given, with the result that we can strongly recommend the following procedure :—

(1) Fix tissues by means of perchloride of mercury, acidulated or not, and then harden in alcohol, as usual.

(2) Embed tissues in paraffin, using toluol as a solvent.

(3) Fix sections on slides by means of glycerine albumen in the usual way.

So far, there is nothing new in the method.

(4) Stain with hæmatin solution for 10 to 20 seconds to obtain a pure nuclear stain (not too deep), then wash thoroughly in water.

(5) Stain now with Ziehl's carbonized fuchsin, kept at a temperature of about 47°C. for 20 to 30 minutes. The slides are during that time kept in a moist chamber to prevent the stain drying on the specimen.

(6) Remove the stain, and treat the section with two per cent. watery solution of hydrochlorate of aniline for a few seconds.

(7) Decolorize in 75 per cent. alcohol till the section is apparently free from stain ; this will take from 15 to 30 minutes.

(8) Double stain with a solution of orange (1 part of saturated watery solution of orange to 20 to 40 parts of 50 per cent. alcohol).

(9) Dehydrate with absolute alcohol.

(10) Clear very rapidly with xylol.

(11) Mount in xylol Canada balsam.

THE PSEUDO-PARALYSES OF CHILDHOOD.

Charles W. Burr (*University M. Mag., 1896, viii, 605*), in a lecture at the Medico-Chirurgical Hospital, studied certain types of muscular weakness occurring in children and simulating palsy, but not caused by disease of the nervous system. Mothers will give a history which as far as it goes is true, but which, unless you are forewarned, may completely mislead as to the nature of the case. You will be told that a nursing infant has suddenly lost power in an arm or leg, or that a child has never walked and is palsied in the legs. You will examine the patient for the physical signs which always accompany true palsies and will not find them. Further examination will reveal some general constitutional disease, most frequently rickets or syphilis. He first examined a four-year-old negro boy. He was the twelfth child, and was born at term after a hard labor in which instruments were used. He was apparently healthy at birth, and has never had convulsions or any acute illness. He was bottle-fed for about one year, and since has been on a diet made up largely of tea and potatoes. Eight brothers and sisters died in infancy. One brother has undoubted rickets. He has never walked. The parental diagnosis is palsy. The extremities of the long bones at the ankle, knee and wrist joints are much enlarged. There is marked anterior bowing of the tibiæ, and the femoræ are also bent. The ligaments of many of the joints are greatly relaxed; so greatly at the hips that you can completely flex the thighs upon the abdomen and bring the feet in contact with the crown of the head. As he sits there is marked posterior bowing of the entire spine, but no angular curvature or other sign of Pott's disease. When prone the spine is perfectly straight. The abdomen protrudes. There is no beading of the ribs. The head is large and square. His teeth are normal in number but markedly decayed. There is general emaciation, but no local wasting; the legs are proportionately not thinner than the arms. He is far too quiet for a healthy child under the annoyance of an examination, and his mother says he will often sit for hours taking interest in and notice of nothing. At night, on the contrary, he frets, sweats much, espepecially about the head, and is feverish. In short, he is a typical case of rickets. But what about the alleged palsy? He cannot walk at all, cannot take one step, cannot stand. He can support himself by the chair only for a moment, and then sinks to the ground. While sitting in his mother's lap he can weakly kick and move the toes fairly well. If you did not know he had rickets, your first thought would be of palsy. But further examination shows that sensation is perfect. The knee-jerk is sluggish but distinctly present. He has complete control of the bladder and rectum. There is no local atrophy of the muscles of the legs. The muscles react normally to electricity. There is no muscular rigidity. The legs hang flail-like from the body as we lift him up. His condition, then, does not correspond with that caused by any nervous disease either cerebral, spinal, or peripheral. It is a case of pseudo-paraplegia, due entirely to muscular weakness, bad development of the bones, and relaxation of the ligaments. Under proper treatment he will recover. In a case as plain as this, with such evident signs, the diagnosis is easily made. But cases are not always so typical.

There may be considerable muscular weakness with but slight evidence of disease of the bones. Some evidence you will always find, but you may have to look closely for it. With what disease, then, may such cases be confounded? You will say infantile spinal paralysis and Pott's disease. The picture of a cerebral palsy is so entirely different that it could not be mistaken for rickety weakness. If you know the previous history of the case, infantile spinal palsy can be immediately excluded, for it comes on acutely with moderate fever and rapidly increasing palsy, which receding leaves greater or less loss of power in one or more extremities. If you have no history, examination alone will suffice, since in the late stage of infantile palsy there is local wasting, alteration in the electrical reaction of the muscles, and abolition of the deep reflexes. In Pott's disease there is the evidence of local bone disease in the spine, and according to its location a spastic or a flaccid palsy with it, if the case be severe, anesthesia and more or less palsy of bladder and rectum.

There is still another disease for which you may mistake the pseudo-paralysis of rickets—pseudo-muscular hypertrophy. Emaciation is not always present in rickets; indeed, the child may be very fat, and in such a case, if the disease has come on after he has learned to walk, the gait may strongly simulate the duck-like waddling of pseudo-muscular hypertrophy, and you may be still further misled by the apparently good development due to the excess of fat. But in pseudo-muscular hypertrophy the calves are not only large but hard, and you will find other muscles wasted. The knee-jerk is diminished or absent. There is constantly decreasing muscular reaction to the electric current. Often you will find a history of similar cases in the family.

Syphilitic pseudo-palsy will well repay a little study. It was carefully studied by the French physician, Parrot, who, in 1886, published a work in which he maintained that rickets was the ultimate phase of syphilis. This view has not been generally accepted, and the most valuable thing in the book is his description of the changes which occur in the bones, especially the heads of the long bones, of syphilitic infants, resulting in separation of the epiphyses from the diaphyses and consequent helplessness of the extremity. The clinical history of the disease varies with the number of bones seriously involved. Thus, there may be an apparent palsy of only one arm, or of both legs, or of all four extremities. For example, a child is successfully born, and after from three weeks to three months—for Parrot's disease is ordinarily an affection of early infancy, during which time the child may or may not show signs of infection—the mother notices that it has ceased, suddenly it may be, to use one arm. On examination the arm hangs motionless as if broken. Sensation is normal. There is no wasting. The muscles react well to electricity. There is pain in the affected area on passive motion, and you may, perhaps, feel crepitus. If there is a collection of pus you will notice swelling and the other local signs. The diagnosis is not difficult unless you are misled by the history of a sudden loss of power which will suggest palsy, or by the presence of crepitus, which may make you suspect the child has suffered some injury from without. Still more misleading are the cases in which one extremity after the other becomes affected as the bone-disease becomes more advanced, leaving the child powerless, the arms lying pronated by the side, and the legs stretching straight downward like two sticks, and when the infant is lifted up swaying loosely back and forth. The total absence, however, of all the correlated signs of palsy, the presence of distinct bone-disease, and the existence of syphilis suffice for the diagnosis. Parrot regarded the condition as necessarily fatal, but in recent years cases have been reported which, under proper treatment, recovered.

TYPHOID FEVER.

F. GORDON MORRILL (*Med. and Surg. Rep. of Boston Children's Hospital*, *1895*, *i*, *45*). An analysis of 42 cases showed that the average age was 8+ years. Normal morning temperature first noted in thirty-one cases on the (average) 23rd day. Normal evening temperature on the 27th day. Average highest temperature in forty cases (104.5° F.) observed on the (average) 11th day. Quickest average pulse (thirty-seven cases), 130—the range of all cases being from 100 to 180, the last figure being that of a case dying from a tubercular complication. Rose spots first noted in twenty-four cases on the (average) 11th day. No rose spot observed in 43 per cent. of all cases recorded. Nausea or vomiting (or both) in 40 per cent. Bronchitis (or rather cough not due to pulmonary consolidation, in 36 per cent. Broncho-pneumonia in 14 per cent., all of which recovered. Epistaxis in 29 per cent. Diarrhea in 33 per cent. Acute delirium in 21 per cent. Abdominal tenderness in 40 per cent. Tympanites in 43 per cent. Abdominal pain complained of in early stage in 19 per cent. Relapses in 14 per cent., of an average duration of seventeen days. Time elapsing from appearance of first symptoms to date of discharge (34 cases) 55 days. Mortality, a little under 5 per cent. One case of house infection occurred, notwithstanding the care taken in disinfecting the dejecta, and the scrupulous cleanliness which characterized the nursing. One case deserved special mention : Here a temperature of 107.8° F. on the 19th day, fell in a few hours to 101°. Nothing beyond extreme prostration was observed in this connection. Three days later, the thermometer registered 104°, and then rapidly dropped below normal, the patient showing a well marked *tâche cerebrale* and convergent strabismus, both of which ominous symptoms disappeared in twenty-four hours, and recovery slowly followed.

It was not always so easy to distinguish between typhoid and the early stages of tubercular meningitis. Nausea, or vomiting, fever, headache, anorexia, and constipation, are symptoms quite common to the early stages of both diseases.

A consideration of a fair number of cases of tubercular meningitis shows that night cries, inequality of the pupils, and the *tâche cerebrale* are signs on which the most dependence can be placed in making a differential diagnosis in doubtful cases. Moreover, an irregular or intermittent pulse has been usually observed in tubercular meningitis on or before the sixth from the commencement of the disease.

SCHOOLS AND THE SPREAD OF DIPHTHERIA.

An elaborate report on the connection between elementary school attendance and the spread of diphtheria has been presented to the London School Board by their medical officer, Dr. W. R. Smith. It has taken fifteen months to prepare, and contains a bewildering mass of facts and figures. The main conclusion tends to negative the theory that elementary schools are a very important, if not the chief, cause of the enormous increase of diphtheria in London and other centers of population. Dr. Smith does not deny that schools contribute to the spread of the disease, but he claims that their influence is comparatively slight. His evidence is divided into three parts—(1) statistics of general mortality from diphtheria in England and Wales ; (2) statistics relating to diphtheria and school attendance in London ; (3) results of special inquiry into 2,000 cases occurring in London in 1895. The facts contained in the first part show that the geographical distribution of diphtheria has varied remarkably during the last thirty-five years, and the inference is drawn that local conditions play a more important part than school attendance. Coming to London Dr. Smith shows—(a) that while the percentage of children attending elementary schools has increased since 1871 from 24.8 to 60, the comparative incidence of diphtheria at the ages of three to ten has remained fairly constant; (b) that the great increase in diphtheria after 1881 affected children under four, which is really the first year of school age, far more than those over four, who form the great mass of school-attending children; (c) that after the age of three female children become markedly and progressively more liable than male; (d) that infants under one year are remarkably exempt, and that the liability rises steadily up to four years, after which it declines; (e) that the notifications of diphtheria do not vary in any regular manner with holidays and school periods; (f) that certain districts are peculiarly affected, and that the liability of very young children is greatest in poor and overcrowded areas. From these considerations he argues that the spread of the disease is far less influenced by school attendance than by age, local conditions, home life and habits, such as kissing among girls and sleeping together in the case of children above the age of infancy.

PROPHYLAXIS OF THE INFECTIOUS DISEASES OF CHILDREN.

A. G. Wollenmann (*Med. & Surg. Rep., 1896, lxxiv, 290*) says that the only successful prophylaxis for these diseases is the destruction of the germs. The principal thing is to thoroughly disinfect the surface of the entire body where, generally, the most infectious matter is deposited. The skin must, at least thrice daily, be washed with potash soap. Ordinary potash soap is preferable to any other antiseptic soap, as the latter can in no way be applied in sufficiently concentrated form. The skin of children is very sensitive to antiseptics, and applying these three times a day may easily produce toxic symptoms. The surfaces of nose, mouth and ears, as well as the face, must be thoroughly rubbed with soap and then washed in warm water. To wipe the parts, clean old linen should be used and then be burned. A mosquito net in tent shape may be put over the bed wherein the patient lies, to limit further dissemination of the infectious germs. On the netting, masses of these germs will adhere, hurled there through expiration and spasmodic cough. Bed clothes and clothing should be often changed. Sheets and clothing once used, must be soaked in two per cent. carbolic acid solution or in two per cent. chloride of lime solution, for several hours in the sick-room. Later on, by washing and boiling, all germs will be destroyed. Absolutely nothing should be in the patient's room save the most necessary articles and utensils. The room must be kept perfectly clean, and should be thoroughly ventilated each day. Daily, the floor and walls should be mopped with clean water and soap. Cats and dogs must be kept out of the sick-room. After termination of the illness, the room is to be fumigated with sulphur (to every 1,000 cubic feet, 3 lbs. sulphur is sublimed) and thoroughly aired for a number of days. A strict rule must be enforced that only nurses be allowed to enter the room. After leaving the room and before coming in contact with other persons, nurses should wash the face and hands perfectly with soap and water. Older children should not expectorate into handkerchiefs, but into suitable cuspidors containing disinfecting fluid. The attending physician must have strict supervision over the cleansing and disinfection. He should always take care for hygiene in the household, and, in those families who have not sufficient seclusion for the healthy children, he should, if possible, provide quarantine for the sick.

Another very important point is the compulsion by law of notification of such diseases. Parent, physician, teacher and the police ought, under penalty, be bound to report such diseases. By such means only can the Sanitary Inspector take the requisite measures to energetically and effectually suppress a threatened epidemic. Bed clothing, mattresses, woolen goods, garments, etc., should be cleaned in public disinfecting institutions. Kindergartens, schools, etc., should constantly be superintended by a physician. Children who are suspected of being in the prodromal stage of diphtheria, scarlatina, measles or whooping cough, should be strictly kept away from these places. Likewise should be excluded healthy children, whose brothers or sisters may be infected with any of these maladies.

If we accomplish these points, which belong to rational prophylaxis, good results, certainly, cannot fail.

ABDOMINAL SECTION PERFORMED SUCCESSFULLY ON AN INFANT.

Alfred C. Carpenter (*Med. Rec., 1896, xlix, 802*) reports the case of an infant, male, two months old. Its abdomen was greatly distended; the temperature was 102.4° F., pulse 120, respiration 80.

The mother said she first noticed that the abdomen had begun to swell when the child was three weeks old, and that it had slowly increased until two days before, when it rapidly became enormous. The bowels had been moving very scantily and only with great effort, and finally had ceased to move at all. He diagnosed the case as one of chronic intussusception and advised an immediate operation, giving the mother very little hope of recovery.

Chloroform was administered. The intestines were so greatly distended with gas that it was necessary to puncture them to allow it to escape and relieve the pressure upon the obstruction. The bowel was reduced without difficulty. The abdominal cavity was flushed out, the intestines were replaced, a small wick of iodoform gauze was introduced for drainage, and the wound was closed. Recovery was uninterrupted, and the child was taken to its home ten days after the operation, the wound having entirely healed and the bowels moving naturally.

From all available statistics this is the youngest successful case of abdominal section on record.

TREATMENT OF ENTERITIS.

E. P. DAVIS (*Phila. Polyclinic, 1896, v, 221*) says that in the artificial feeding of infants two things are of the utmost importance —cleanliness, and the scalding of the milk, with its administration at regular intervals.

The separator cream obtained by means of the application of centrifugal force, is five per cent. richer in fat than ordinary cream obtained by allowing the milk to stand. The milk for infants should be scalded, that is brought up to the boiling point, but not allowed to boil, for, if it is, it becomes indigestible. In weakly, marasmatic babies the milk should be partially digested ; this is accomplished very readily in ordinary practice by the use of " Peptogenic Milk Powder," following the directions for its use which accompany it.

Barley water is prepared by adding one tablespoonful of barley grains to one pint of scalding hot water, allowing it to stand and then straining ; it is a valuable addition to the diet, exerting an astringent action on the bowel in case of diarrhea.

Oatmeal water is prepared by the addition of one tablespoonful of oatmeal to the pint of scalding water, allowing it to stand ; strained and administered, it exerts a laxative action.

If the child vomits, is feverish and has frequent stools, the milk should be stopped altogether for twenty-four to thirty-six hours and albumen water substituted.

Albumen water is prepared by adding the white of one raw egg to eight ounces of water ; in addition the child should get light chicken or mutton broths or freshly extracted beef-juice.

Brandy and water form a good stimulant and may be administered in ten drop doses six or eight times a day. The administration of a dose of castor oil, guarded by some brandy to prevent griping, is of exceeding value to clean out the irritating material from the intestines. Lavage of the intestine is of first importance in intestinal infantile disorders. It is usually accomplished by the use of a number 11 or 12 soft rubber catheter and a fountain syringe with one or two quarts of warm water. The best result is obtained if the infant is placed on its abdomen across the nurse's knee, the water being at a temperature of 100° F., and a little soda or salt added to it. Great relief is obtained from the evacuation of the flatus and feces. In chronic cases some antiseptic and astringent must be added to the water, thus :

Boric acid, ½ ounce to the quart.
Creolin, 30 drops to the quart.
Sodium salicylate, 10 gr. to the quart.
Thymol, 1 part in 2,000.
Mercuric chlorid, 1 part in 10,000.

The use of the solution of mercuric chlorid should be followed by irrigation with warm water ; this irrigation of the intestines not only removes the flatus and feces but exerts a stimulant action upon the bowel.

TETANUS ANTITOXIN.

(Tetanus antitoxic serum).

The New York City Health Department is prepared to furnish antitoxic serum for the treatment of tetanus. Each vial contains 20 c.c. of serum, having an immunizing power of 1 to 3,000,000 ; i.e., one c.c. of serum protects three million grammes of guinea pigs in weight from a fatal dose of tetanus toxin. The average initial dose of the serum varies with the age of the patient, the gravity of the case and the time when treatment is begun.

The remedy is administered by deep hypodermic injections, a large syringe (such as has been employed for diphtheria antitoxin) being preferably employed for the purpose, although an ordinary hypodermic syringe carefully cleaned may be used, the barrel of the syringe being repeatedly filled. Some point on the anterior surface of the body should be chosen for the injection, where there is an abundance of sub-cutaneous cellular tissue, as the anterior surface of the abdomen or thorax or the outer surface of the thigh. Before the remedy is administered the skin should be carefully washed with alcohol or some disinfecting solution, and the syringe carefully sterilized and then washed with sterilized water. The solution is rapidly absorbed and it is better not to employ massage over the point of injection.

It is of vital importance in tetanus that the antitoxin be administered at the earliest possible moment, as the dose required to neutralize the tetanus toxin absorbed increases with great rapidity with each hour's delay.

When the treatment is begun at the first appearance of tetanic symptoms and they do not point to a very severe infection, and especially when the incubation period has been long, e.g., two weeks, one vial, or 20 c.c., may suffice for the first injection and, according to the results, one-half the quantity or the same quantity should be repeated at intervals of from six to twelve hours during the four following days.

If the infection is intense, as shown by a short incubation period, e.g., five to eight days; or by the rapid development of the tetanic symptoms and by the predominance and intensity of bulbar phenomena, or if the treatment is begun several days after the appearance of the tetanic symptoms, even if at the time of injection they are not severe, the contents of one vial should be at once injected, and the dose repeated at short intervals, according to the effect produced on the tetanic symptoms.

The doses required where the wound has been previously untreated, even if the symptoms are slight, are usually large. The dose for children under twelve should be one-half or less that for an adult. The use of tetanus antitoxin does not preclude the employment of other remedies, such as chloral, the bromides, physostigmine or morphine. Some one or more of these remedies should be employed in full doses. It is also thought to be advantageous to give large amounts of water to the patient for its diuretic effect, as the tetanus toxin is eliminated by the kidneys.

Where tetanus follows some wound of the surface, this should be treated freely with some preparation of iodine in solution, to destroy the toxins in it. The ordinary antiseptic solutions, such as carbolic acid and bichloride of mercury, are of little value for this purpose.

The exact value of tetanus antitoxin in the treatment of this disease and the best method of administration have not been fully determined, and the Health Department of the City of New York specially requests that all persons using this preparation of antitoxic serum will forward a full report to the Department of the case and the results of treatment.

All public institutions in New York City, on application, will be furnished with tetanus antitoxin free of charge.

Address "The Bacteriological Laboratories," Health Department, Criminal Court Building, Centre, Elm, White and Franklin streets, New York.

PEDIATRICS

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Original Articles.

PUBERTY IN GIRLS AND CERTAIN OF ITS DISTURBANCES—A PRACTICAL LESSON.

By J. Madison Taylor, M.D.,

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GIRLS who become pallid and feeble about the time of puberty constitute a more or less constantly recurring group of cases, and present themselves with a series of symptoms indicating symmetrical enfeeblement of mind and body, becoming lack-luster, losing interest in life, and are a source of considerable anxiety to their parents. Too often this group of symptoms escapes the attention it deserves; a medical adviser often trying, perhaps, several methods to relieve and failing, gives the time-serving advice to allow this child to outgrow the difficulty. It is a fact that Providence does see fit, not seldom, to happily endow these sufferers, for sufferers they are, with a final regeneration; meanwhile, much time is lost and many important years are spent in a condition of debility, both mind and body failing of right development, and if recovery does result spontaneously, the result is a weaker adult than need be were proper measures used.

There may be somewhere in medical literature comprehensive essays upon the subject of the changes due to puberty, but with considerable search and inquiry I have failed to find them.

Cases such as I have indicated interest me deeply, and it has been my good fortune to see some excellent results of treatment. Of course, if any organic disturbance is detected, if there be anything obviously amiss in the digestion or elsewhere, and these difficulties are removed, then in the removing of that which is obvious other disordered states are helped, and final recovery, partial or complete, may be the result. High injections to the colon, accompanied by small doses of castor oil in capsules, are found to be most helpful to slow bowels.

The clinical picture I had in mind is this: so long as girls are in the vegetative stage with undeveloped sexual tendencies, while they romp and play as boys or girls should do, all goes well. The requirements of civilized society, consciously or unconsciously recognized, which limit the too boisterous play of girls, causing this to stop or offering discouragement, inducing an early over squeamishness about getting themselves dirty, or making more noise than custom encourages, taking more interest in the refinements of life than the essentials, gradually produces in girls approaching puberty an exaggerated sense of the importance of refined conduct. This is by no means confined to the upper class, although, perhaps, more often seen there.

Often very early the human female begins to suffer from slowly acting bowels; not only so, but unless the opportunity for evacuating these is hedged about with all kinds of artificial safeguards, any discouragement will result in neglect. Teachers in schools have assured me of this, or, rather, admitted it when I pointed out the difference between boys and girls.

High injections of normal salt solution to the colon, along with small repeated doses of castor oil in capsules, are most helpful.

It is only necessary to advert to the important circulatory changes which arise during the establishment of menstruation, which is described with greatest clearness and attractiveness by Clouston in his admirable book on "Neuroses of Development."

An examination of the girl who seems to have lost her interest in life will usually reveal these symptoms: there is loss of appetite or over particularity in choosing of foods, very often some vitiation of tastes, lack of muscular activity, perhaps some little evidence of dyspnoea on exertion, irregular or slow acting bowels or recognizable failure in circulatory activities, especially clammy hands and feet, heaviness of breath, and if the lungs be examined the apices are seen to be insufficiently expanded. The heart exhibits evidence of dilatation, or at any rate, there is a flabbiness about it and a distance to its sounds, a heaving impulse and the pulse becomes over-readily disturbed in rhythm upon motion or excitement.

The girl will be more inclined to read and employ herself in sedentary fashion, and will systematically avoid spontaneous activity and evidencing alertness. The blood, if examined, will be found defective in haemoglobin ; the urine perhaps of the highest specific gravity, probably alkaline, or it may be considerably increased in amount, or these conditions may alternate. The symptoms are vague enough to ordinarily escape attention, but prompt and persistent remedies are here of almost as much importance as in more seriously disturbed states. If all this be neglected the girl's character may sometimes be grievously altered and her future changed. She may be regarded, however, as merely quieting down from her hobeldyhoy stage, and many mothers will welcome this.

Now, as to the measures which should be persistently employed, for months rather than weeks, continued, it may be, for years. Nothing is of more importance than that the physician shall gain the confidence of his patient and secure her co-operation. If she will be frank and candid, discussing the matter with him freely, he will very often find much that would otherwise remain obscure. There are numerous physical conditions which demand careful weighing ; the doubts, the fears or ambitions, more likely a hypercritical self-examination ; at any rate, an increased introspection, and not seldom, a rather interesting conception or expression of views on life which will amuse and instruct the investigator. I have been greatly surprised and pleased to learn much that such girls as these could teach me.

The next thing is the question of incentive ; the devising how to secure an increased interest in life in its wholesomer aspects. Lack of incentive is the greatest stumbling-block in dealing with apathetic folk, whether children or adults, and here the individual factor, the individuality of the physician, comes in most strongly, and some men can infuse a greater degree of enthusiasm into their patients than others, and such are to be congratulated.

As to how we shall accomplish initial movements, an awakening of interest and invigoration of the will, few rules can be outlined or applied. It is a good rule, however, to strive earnestly to impress, not only the necessity of her doing as we direct, but to urge this with such subtlety and tact, and withal extreme persistence and variety in our methods, that the result is obtained soon or late. Flattery is an important agent, stirring the vanity which every one possesses, or should possess, and it is perhaps nowhere more influential than in dealing with large girls or young women, but the key-note of success lies just there. Of course, it is impossible to expect much success in shaping or directing forces until there is enough of inherent vigor present to warrant activities, whether of the mind or the body.

The first organ to be looked to is the heart, not neglecting, of course, the digestive conditions. A powerful heart tonic used for a few days or weeks will help more than any other one medicine, and it is my custom to add to any tonic used, digitalis or strophanthus or nux vomica, in full doses—and by this I do not mean the rule of thumb procedures so commonly advised. So soon as we can secure a full, regular, strong pulse, and one which is not subject to more than the normal variations from lying, sitting or standing, and swift movements, we have the most important physical point gained. The amount and character of the animation is a fair indication of the usefulness of our heart tonics ; the urination is also a helpful index, and these should be reduced to uniform measures.

The digestion requires assistance, and the predigesting agents, such as pepsin or pancreatine in solution, are not only of value but a good menstruum for other drugs. The bowels must be kept sufficiently active. The food should be supplied in adequate amount, using exact measurements, and had better be highly albuminous, at least for a time. There is usually very little aptitude for meat, and often revolt at milk. Regulated amounts of broiled or scraped beef or mutton, along with predigested milk or kumyss, will soon show results. Along with the digestive tonic, it is well to use mineral acids, muriatic or, preferably, nitro-muriatic, especially where the urine is found to be alkaline, a very common cause of mental depression. Most cases of anemias in this class, as well as in younger children, are due to faults in the intestinal digestion, and important medicines, aside from those alluded to, are forms of myrrh, such as aloes and myrrh ; and the intestinal antiseptics, salol, naphthol and bismuth, and the regular use sometimes of castor oil either once or twice a week, to secure thorough evacuation, or in smaller amount in capsule three times a day, immediately before meals, in 10 to 20 min. doses ; very helpful in catarrhal states.

Many girls get into the luxurious habit of sponging themselves by piecemeal, in driblets of luke warm water, or taking a warm or hot bath, which they declare is a very great comfort and pleasure. It is, of course, not wise to insist on a cold bath at once, especially where menstruation is irregular, but this must be accomplished by the help of a competent trained assistant or a good nurse or maid. The use of cold water sponging or bathing should be learned and practiced. A good way to begin is with the patient standing in about three inches of warm water, and a maid sponging her off in a little of this, immediately following with a larger sponge, rapidly going over her with salt water, growing colder each day until it is quite as cold as the room in which it stands, or more so, immediately followed with a brisk rub down, until the skin acquires a prompt reaction, and there comes a clear pink color from head to heel. This bath, moreover, is better given after a partial breakfast, such as a cup of cocoa, followed by rest in bed for half an hour, then the bath given by the maid, a rough rub down and finally breakfast. As the girl grows stronger she will take her cold bath herself and learn to enjoy it. It is valuable also, after some regular outing or exercise, to take another salt sponging, not so thorough, perhaps, and a rest, lying down from half to an hour, say, until the end of the afternoon and until the evening meal is ready.

The kind of exercise suitable to such cases varies very much and is too large a subject to discuss in full. One thing is manifest: the habitual inaction reacts upon the heart, increasing its feebleness, from whatsoever cause that may have come. A slowly increased exercise, along with vigorous tonic medication, will repair the fountain of motor force.

The lungs will be seen insufficiently expanded, at the apex especially, and respiratory gymnastics, if some one can be found to properly direct them, and this the physician himself should supervise. Forced deep breathing twice or thrice a day will accomplish this needed expansion, and will greatly aid in oxygenating the blood. The use of medicated inhalations is helpful, but to blow upon a horn or the use of a boy's pea-shooter would be equally good, and, in any event, will produce a deep respiratory action. At first the patient will complain that it makes her dizzy, and, being more or less apprehensive about their physical state, they will object. So soon as they can be induced to take mild, open air exercise, by which walking solemnly along the street is emphatically not the best, and not even a good way, they had best be encouraged to do so. The so-called calisthenic exercises, which mean "beautiful forcefulness," probably because they are usually so hideous, are devoid of interest and not particularly useful. Only that exercise is best which involves some pleased acquiescence in the performer or some interest in the doing.

Tennis is all very well, but is almost too violent for girls below par, and certainly until the patient gets into a moderately good condition. Golf is one of the best of possible exercises. The bicycle has the very profound merit of being acceptable to most persons, at least nowadays, while it is so fashionable; it may not be the best thing to use, but it is certainly best to use something that is not harmful, and in most cases this fills a very obvious need. Swimming at the seashore or elsewhere is of admirable efficacy. Rowing gently in a skiff, the old-fashioned game of croquet, most unfortunately now out of fashion; the excellent and ancient game of graces, which really were more or less graceful, and that obsolete practice known as battledore and shuttlecock, all have merit. For those who can afford it, or in whom it is warranted, it is certainly best to prescribe and supervise a course of massage and regulated exercises in the way of Swedish movements; but the discussion here has rather to do with cases who do not care to be considered invalids, yet none the less require the full attention of physician and parent.

Girls who go to school are the victims in these days of the new-fashioned, silly forms of exercise called "Physical Culture." usually demonstrated by one of the least busy of the teachers, who tells them to stand up and wave their arms to a one, two, three order, and the girls present, under these circumstances, the most pitiable and imbecile expression. But, to be sure, this is better than nothing—better by far than sitting all day stagnating, and may serve a more or less useful turn. If, however, the time so used were employed in tossing back and forth a good old-fashioned bean bag from one to another, or that most useful of exercises, the medicine ball, causing it to make the circuit of the room, and omitting no one; perhaps keeping two or three going, giving eye and hand and brain all an opportunity of acting together, and involving, as it does, some little amusement of a competitive kind, and requiring some personal skill, would be the best employment of the short recess in the ordinary girl's school. When the weather admits of it, the best thing to do would be to don overshoes and warm head-gear, a pair of old gloves, and toss this medicine ball about out of doors. But if this be objectionable to the over-squeamish teacher or parent, let the windows be opened wide and the girls kept at exercise for ten minutes pretty actively; they would thus get a mouthful of clean air and a stirring up of the blood. It is, indeed, one of the most difficult problems to first select, and next to carry out the proper means of developing the bodies of our growing girls. The subject is woefully neglected, although there are a good many fashionable attempts made and the results are in a measure satisfactory.

THE MUSCLES OF RHACHITICAL INFANTS.*

By A. Jacobi, M. D.,

Clinical Professor of Diseases of Children in Columbia College, New York.

THE muscles of the newly born and of the infant are feeble. The total weight of the muscles of the newly born, compared with that of the adult, is one to forty, while the relation of the skeleton is but one to twenty-six. After a while only the dynamometric effect of the child's muscles will increase. Mainly is that so after the sixth year. But even then it is only temporary and not persistent. Nor is their sustaining and persistent strength satisfactory. The frequency of traumatic joint inflammation in infancy and early childhood results from the incompetency of muscular resistance. Falls are very frequent. Squinting is common in small children, simply because their muscles of accommodation and motion are insufficient. Scoliosis is frequent even in infants and children not suffering from or affected by any ailment. Growing pains are often muscular only, and the result of over-exertion.

This is much more evident in those suffering from rhachitis. What has been called rhachitical pseudo-paralysis by Berg and others is but a confirmation of the fact that the muscular structure is insufficient. This condition may be universal or only a certain class or combination of muscles are the principal sufferers. Strabismus is particularly perceptible in rhachitical infants. With it is occasionally combined, or there is found isolated in some instances, nystagmus, which being in such cases the result of the insufficient accommodation is mostly noticed to be bilateral. In many of these exclusively muscular cases there is a motion of the head in the same or opposite direction. An instructive case of the kind was published by Caille some years ago. Scoliosis is very common in rhachitical children and those who have been so.

It is true that rhachitical children are apt to be very strong after recovery, but the pressure that children are subjected to in our schools, and the expensiveness of fresh air in large cities, and the exposure to indoor life more than one-half or more of the year in our climate allow but little Easter resurrection to our rhachitis smitten little ones. Resurrection is preached only, and from the pulpits only. Habitual scoliosis of the very young, up to the tenth year, is almost exclusively muscular, mostly dorsal, or sometimes lumbar, with the convexity usually to the left. Not being able here to follow up the cases of school children with their left arm (shoulder forward) on the table, clothing amassed under one gluteus, and defective sight, I refer only to what we see in rhachitical babies, particularly when carried on one arm only. More than healthy babies they grow scoliotic. Even when sitting in their chair, not supported by their own strength, they topple over in one direction or the other. Even before scoliosis occurs there is a general flabbiness of the muscles, which prevents free sitting altogether and causes an apparent or actual kyphosis. The latter is easily distinguished from a spondylitis kyphosis, inasmuch as it does not exhibit the same angular shape. As long as no bones participate in the deformity the diagnosis can easily be made between that caused by weakness and that resulting from actual bone disease. By raising the baby's heels and hips, while the chest and chin are supported, the apparent curvature depending on the weakened muscles will instantly disappear and lordosis rather than kyphosis will be observed.

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* Part of a paper read before the Pediatric Section of the New York Academy of Medicine.

The feebleness of the infant's muscles when intensified by rhachitical malnutrition is evidenced by nothing better than the symptoms connected with the insufficiency of intestinal muscular tissue in early life, which is exemplified in different ways.

One of the reasons why, for instance, renal disorders are not at all uncommon in the intestinal diseases of early life (the others being as I have shown but lately in a paper on "Nephritis of the Newly Born," New York *Journal*, January, 1896, the disproportion of the large renal arteries and the small capillaries, and the large size of the intestinal vessels and villi) is the feebleness of the intestinal muscle in the young, which is less capable of expelling decomposing faeces and toxines. This feebleness of the muscles shows itself, however, still more frequently in another symptom, which is quite common in rhachitical children, and even pathognomonic for early rhachitis. Take an infant born at full term, with good weight, breast fed and apparently well and increasing in weight. The bowels are reported to have been regular for four, six or eight weeks, then they become costive. There is no apparent change, the baby does not appear to be sick, is perhaps a little quieter and paler. Even the early cranial changes of rhachitis are sometimes not so perceptible as to be positive evidence of that disease. But this constipation is. Go on with the same feeding, air and other surroundings being the same, and more symptoms of rhachitis will soon develop.

In order to be certain of your diagnosis of rhachitis from this symptom, every other cause of constipation ought to be capable of exclusion; for instance, chronic colitis and peritonitis, deficient or viscid mucus, local atrophy of the intestinal muscle, or stricture of the intestine, perhaps even cystic tumor, though they be excessively rare. The apparent constipation which results from insufficient feeding, either intentional or not, and resulting in starvation ; the super-abundance of casein in milk, of starch in artificial food ; the relative absence of sugar ; hardened faeces in the colon ; hydrocephalus and other causes of defective innervation. Exclude also the drying up of the intestinal contents by excessive perspiration during the hot summer months, in hot rooms, under heavy clothing, or by diabetes insipidus. After excluding all these possible causes of constipation you will not fail to make your diagnosis of rhachitis, which will possibly be confirmed by other symptoms of rhachitis if you wait a short while, or rather, and that I prefer, by the effect of anti-rhachitical treatment.

The differential diagnosis is also to be made from the form of constipation which I have termed congenital constipation in the same article, *Journal of Obstetrics*, 1860, in which I discussed rhachitical constipation. In annual lectures and occasional papers, even in a discourse before the Eleventh International Congress, I have referred to the same subject because of its scientific and practical importance. It was not heeded much until some years ago, when foreign publications took up the subject ; for instance, Marfan in an essay published in *Arch. Gen. de Med.* a few years ago. The facts are briefly as follows :

The embryological intestine is formed in separate divisions. There is no ascending colon before the fourth or fifth month of foetal life. In the newly born it is very short. In spite of this the large intestine of the mature foetus is longer in proportion than that of the adult. In the new-born it is three times, in the adult only twice as long as the body. This is the same proportion that is found for the small intestine, this being twelve times as long as the body in the newly born, eight times as long in the adult.

The ascending colon being very short the surplus of length belongs to the descending colon, especially to the sigmoid flexure. As the pelvis is very narrow, the great length of the lower part of the large intestine causes multiple flexures instead of the single sigmoid flexure of the adult, consequently now and then two or three flexures may be found overlapping and compressing each other. One of them is quite often found in the right side of the pelvis, and not at all as an anomaly, as Cruveilhier and Sappey thought. Huguier found it in that location so often that he proposed to operate for artificial anus on the right side in small infants.

This great length of the colon and the multiplicity of its flexures retard the movement of the intestinal contents, facilitate the absorption of fluids and render the faeces solid. Time and again have I been compelled to manually remove hardened faeces from the recta of babies otherwise normal, and fed exclusively on normal breast milk. The principal points of the differential diagnosis are consequently furnished by the time at which under the same apparently favorable circumstances constipation begins—in the "congenital" form at birth, in the rhachitical in the second or third month.

Under the ponderous heading of myasthenia gravis pseudoparalytica JOLLY describes in the *Berl. Kl. Woch.*, No. 1, 1895, the case of a boy of fourteen whose voluntary muscles exhibited an unusual degree of exhaustibility. All of the extremities suffered, so did the eyes, the neck, the cheeks, the lips. Voluntary action and electrical irritability had the same effect on them; that is, when the former was exhausted the latter was lowered. In a similar case, however, Mosso found that when voluntary action had exhausted the muscles electrical irritability was not lost. In this condition there is neither atrophy nor hypertrophy, and no local disease like that in juvenile muscular dystrophy. This peculiar condition is rather a contrast to myotony or to the tonic contraction produced in muscles by veratria, physostigmin or digitoxin. It may be compared with the effect of curare. This makes it not improbable that we have to deal here with the results of some chemical alteration in the muscles. Still, both Mosso and Benedict found similar conditions in central disorders. The former goes so far as to speak of a bulbar paralysis not attended with any anatomical lesions.

In several instances many years ago I subjected rhachitical children of the second year who could walk to the Faradic and galvanic currents. It appeared to me that when they were tired, the electrical current had to be increased. But such patients at that early age are not favorable subjects for experimentation.

The treatment in every such case should begin with rest and with exercise gradually increased. Hydro-therapeutic measures, from warm bathing to cold friction, are indicated. Massage will improve the circulation, and chemism, and arsenic and phosphorus will probably improve the general tissue building. Veratria, physostigmin, digitoxin in small doses and given frequently may be able to restore or produce the normal tone in the feeble muscles.

A syphilitic pseudo-paralysis of the upper extremities was described by BEDNAR nearly half a century ago (*Diseases of the Newly Born, vol. iv, p. 227*). In sixty-eight cases of hereditary syphilis he met with it sixteen times in the upper extremities, once in the lower, and twice in all of them. He explained it by muscular relaxation of peripheral, not central, origin, and saw it getting better with tumefaction of the bones, under the prolonged use of mercury.

American Pediatric Society.—The following officers were elected for the coming year: President, Dr. Samuel S. Adams, Washington; first vice-president, Dr. W. S. Christopher, Chicago; second vice-president, Dr. Charles W. Putnam, Boston; secretary, Dr. Frederick A. Packard, Philadelphia; treasurer, Dr. Charles W. Townsend, Boston; recorder and editor, Dr. Floyd M. Crandall, New York; member of council, Dr. William Osler, Baltimore.

Chinese Methods of Predicting the Sex Before Birth.—A round, prominent abdomen projecting forward so as to interfere with locomotion indicates a girl, while a uterus extending very high upward means a boy. A fresh color of the skin, with only a slight pigmentation, especially of the areola and slight change in the features, points toward a girl, the opposite condition to a boy; violent movements of the fœtal extremities also indicate a girl. When after the seventh month the right hand of the fœtus can be felt moving in the left side of the mother's abdomen—there may be some doubt about the mother's ability to distinguish the right hand of the fœtus from the left—it is male. The most interesting methods cited are two which point to a very high development of the mathematical faculty among the Chinese. The first depends upon the second figure of the mother's age and the probable month of conception. If both figures are odd or both even, the child will be a boy. If one is odd and the other even, a girl is expected. The most complicated method of all was published in 1593, by the wise man, Fschweng-Fa'wei: To the number 49, evidently a number regarded as sacred, add the number of the month of conception, and from the sum subtract the age of the mother; then subtract 1 (for the heavens), 2 (for the earth), 3 (for mankind), 4 (for time), 5 (for the elements), 6 (for the musical scale), 7 (for the plants). If the remainder is an odd number, the child will be a boy; if even, a girl. If the remainder is larger than the number eight, that number is also subtracted (for the directions of the wind), and the decision made according to the final remainder. Even European residents of China believe in this method.—J. J. Matignon, *Archives de Tocologie et Gynecologie.*—*Med. Rec., 1896, xlix, 718.*

A CASE OF TUBERCULOUS ABSCESS OF THE THYMUS WITH THROMBOSIS OF THE LEFT INNOMINATE VEIN.

By GEORGE CARPENTER, M. D.,

Senior Physician to Out-Patients, Evelina Hospital for Sick Children, London.

ELDRED H. C., aet. 2 years, came under my care on July 1, 1895. He had been wasting since Christmas and had been troubled with diarrhœa and a bad cough. Until a year old he had been a healthy child, when he had an attack of measles and from that time he had not been well.

His father died of phthisis two months previous to his coming under my notice. Before I made a physical examination I was immediately struck by his swollen face and his wasted body, the former being suitable for a well-nourished child of his years; his extremities were cold and his lips blue.

The following abnormalities were noticed when a physical examination was made:

Lungs.—On the right side in front there was dullness as far as the third rib, and behind it was limited to the area of the chest corresponding to the upper lobe, as also in the axilla.

Over the dull area there was a vesicular murmur, but occasionly the expiratory murmur was rather hollow, and tubular breathing could be detected when a laryngeal noise was made; it was then heard with expiration and was quite loud.

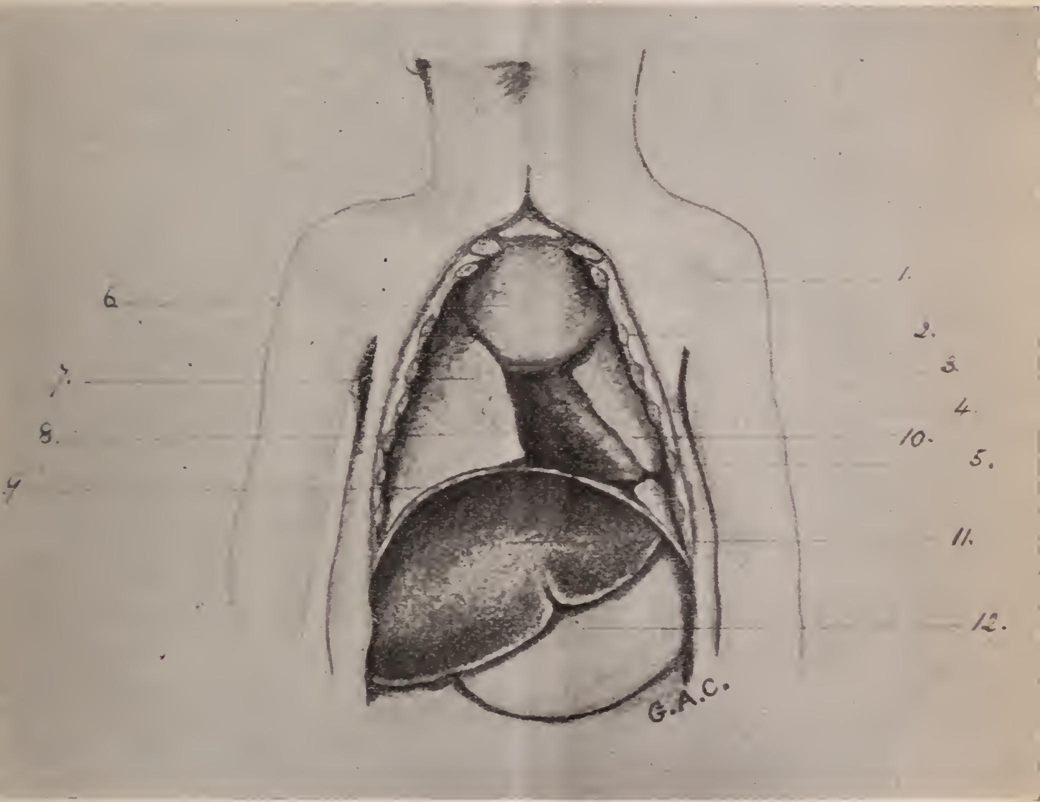
On the left side in front, over the second interspace, there was a small patch of tubular breathing but no dullness. The sternum from the level of the third rib upwards was dull—to the right it merged into the lung dullness, below it ran into the cardiac dullness, and to the left it slightly encroached beyond the margin of the sternum.

The heart was normal and nothing amiss was found with the other organs; the liver was below the costal margin in the nipple line about a finger's breadth.

The face and neck were puffy, but they were not oedematous in the sense that they pitted on pressure; puffiness of the eyes was marked after a fit of crying. There was a bright flush on the right cheek. The veins above the left clavicle were enlarged, but the venation on the right side was not so marked.

The arms were not swollen.

Whilst under observation diarrhœa was a troublesome feature of the case, but apart from this nothing worthy of note occurred and he died after being in hospital some thirteen days. He certainly did *not* suffer from "thymic asthma" when under my care.



Abscess of the Thymus in a child, aet. 2 years. 1 to 5, the 1st, 2d, 3d, 4th and 5th ribs; 6, abscess; 7, the right lung; 8, heart; 9, diaphragm: 10, left lung; 11, liver; 12, stomach.

Autopsy.—In the anterior mediastinum on removing the sternum a fluctuating tumor was seen. Its surface was non-adherent to the sternum and smooth. It overlapped the base of the heart and the great vessels and was continued into the pericardium. Its extreme lower limit was on a level with the third rib, its upper the top of the sternum, and its diameter about that of a tangerine orange. No trace of the thymus could be found. On opening the pericardium a small quantity of serum escaped, in which floated small flakes of lymph, and both the visceral and parietal layers of the pericardium gave evidence of an early pericarditis. The aorta, pulmonary artery, and superior vena cava were seen to disappear behind the tumor, and on cutting into this pus escaped. When this was evacuated a cheesy membranous lining came in view, and when this was stripped the underlying tissue was found to be smooth and of a rather bright venous blood color, and just like the cavities found in the right apex. Across the abscess cavity passed the obliterated left innominate vein—the right innominate vein was outside the sac. The arteries were situated behind the abscess and were unaffected.

Right lung.—The upper lobe was solid. At the extreme apex a cavity was found full of caseous material and sufficiently large to admit the terminal phalanx of the thumb. Half an inch below this was a cavity, the size of a Spanish nut, with similar contents. At the base of the upper lobe was a cavity the size of an almond. Scattered through the solid lung were tubercles the size of a pin puncture, some of them pale, others with a yellow tinge. The bronchial glands in the immediate neighborhood were all cheesy and matted together. There were two cheesy glands between the upper and lower lobes. The upper lobe was very adherent to the chest wall, the lower a little; and the upper and middle and lower lobes were slightly adherent to one another.

The lower lobe was healthy, except the apex, where there was a yellow caseous mass the size of a pea, surrounded by sago-grain tubercles.

In the middle lobe were two cheesy tubercles, one the size of a split pea, the other somewhat smaller, and around them was a halo of semi-confluent sago-grain tubercle. There were no tubercles in the adhesions, but a few subpleural sago-grain granulations were found. The sago-grain granulations varied from a pin puncture to a pin's head in size.

Left lung.—In the center of the upper lobe was a patch of consolidation the size of a pea, which was caseating and surrounded by sago-grain granulations—a few sago-grains were dotted about. The lung was crepitant. At the root of the lung the glands were not enlarged and appeared to be normal.

Apart from the abnormalities mentioned the organs were natural.

THE MANAGEMENT OF INFANT FEEDING.*

By Louis Fischer, M. D.,

Associate Professor of Diseases of Children, New York School of Clinical Medicine; Physician to the Messiah Home for Children; Attending Physician, Children's Department, German Poliklinik, and to the West Side German Dispensary.

ALL pediatrists will agree that nothing more difficult confronts them in their daily practice than to decide exactly what to feed a baby, and in this paper I shall discuss the subject under two divisions: First, infant feeding in health; second, infant feeding in disease. The term "infancy" is here used to include all times from birth to the end of the second year, or until the completion of the eruption of the milk teeth. No one will dispute the fact that the feeding of a sick baby is an entirely different matter from the feeding of one in good health. I shall therefore first consider feeding in health. An infant may be fed in two ways: First, from the human breast; second, from a bottle, otherwise known as hand-feeding or artificial feeding.

Nursing of the Newly Born.—An infant should be put to the breast as soon after birth as the mother's condition warrants, which is usually between six and twelve hours. The first milk contains colostrum, which consists of laxative salts, and clears the child's intestinal tracts. It does contain some nourishment, and the usual addition of sugar water to the dietary, or milk and water where colostrum is given, is deleterious.

The proper secretion of milk in a normal breast rarely takes place before the third day. An infant should be put to the breast every two hours. By this stimulation it aids the formation of milk and also the contraction of the uterus. Should there be a deficiency of milk supply, however, then cow's milk might be advantageously given, diluted as follows:

One-third cow's milk,
Two-thirds water,
One piece of loaf sugar and some salt.

The minutest instruction should always be given as to the interval between each nursing, as to the quantity that a child should take, for some children with a good appetite require both breasts for one meal, as to regularity in feeding and about feeding at night.

A healthy child during the first two months requires the breast every two hours, from 5 a. m. to 11 p. m. The child should not sleep with its mother, but be trained to sleep in a crib for at least six hours, so as to insure some rest at night for the mother.

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* Read by invitation before the Society for Medical Progress, New York, April 11, 1896.

This is a vital point in my opinion, as, from the prolonged lactation, the quality and quantity of the mother's milk must never be lost sight of, and unless the mother has her proper rest the milk will be deficient in quality.

I wish to emphasize the fact that we must individualize our method of feeding, and remember that while some children merely require food once in three hours, others will require feeding every hour and a half.

The strong, newly born infant has a stomach capacity of about one and one-half ounces. It has been found that an excessive feeding over this amount may cause vomiting. Slow nursing extending over fifteen minutes is preferable to quick nursing. In this way a child would probably receive about twelve ounces of milk in each twenty-four hours during the first week. The infant could be fed once every two hours, giving us ten feedings in twenty-four hours and allow four hours for rest.

As the child gets older and stronger the stomach capacity increases, and the interval of two hours between each feeding can be prolonged so that one feeding every two and one-half hours or eight feedings in twenty-four hours would be sufficient, never omitting the interval of rest at night for the recuperation of the mother. Between the third and fourth month the child need be nursed only every three hours, and experience has shown that an infant takes about three to six ounces at each feeding, or between twenty-four and thirty-six ounces in twenty-four hours. This will amount to six to seven feedings in twenty-four hours.

Wet Nurses.—If the infant's own mother cannot nurse her child, then we can and should try to secure a wet nurse.

The wet-nurse must be carefully examined as well as her child for the presence of syphilis. With your permission, I beg to refer to a short paper on this subject, published in the *American Medico-Surgical Bulletin* in January, 1894:

Never have a baby fed by the milk of its mother if the latter suffer with general debility or tuberculosis. Extremely nervous mothers should not nurse their babies.

Syphilitic babies (hereditary) can only be nursed by their own mothers, owing to the risk of infecting the wet-nurse. Very frequently the life of the child is dependent on its being nursed by its mother in syphilis.

(*a*) The return of menstruation is no contra-indication to the continuation of nursing.

(*b*) The moment a woman is pregnant nursing should be stopped.

(*c*) Children should not be nursed at night unless for some special reason.

(*d*) Weaning should take place gradually, and only in the eighth to the tenth month.

(*e*) It is understood that weaning should not be commenced during the hot summer weather.

The main factor in determining the time of weaning is "weighing." Children must be weaned when, although in perfect good health, they remain below normal weight.

(*f*) Prolonged nursing will induce rhachitis.

2.—If, for various reasons, a child cannot be nursed by its own mother, we then resort to the wet-nurse.

(*a*) She must be carefully examined as to her physical condition ; tuberculosis, all chronic disorders and diseases would prevent proper nursing. Hereditary nervous troubles, epilepsy or syphilis would exclude nursing.

Milk requires examination to determine amount of fat, the condition of the emulsion, etc.

(*b*) It is a good point to try to procure a wet-nurse suckling a child about as old as the one we wish her to nurse, although it is quite common to find nurses who have older children than the one they wish to nurse and to find the latter doing well.

(*c*) The proof of the usefulness of the wet-nurse is the condition of the baby after some time. If the child thrives it will increase in weight. Hence scales must be frequently used.

Weaning.—When a child reaches the age of six months, it is well to think of weaning. I have very successfully tried gradual or partial weaning. This consists in giving at the age of six months one hand-feeding of six to eight ounces during the twenty-four hours. It is to consist of cow's milk three ounces, and, if the bowels are regular, three ounces of barley gruel, made with water, and about ten-fifteenths grains of ordinary table salt and one-half lump of cane sugar.

Each month following the sixth month we can withdraw one breast-feeding and in its place substitute an artificial feeding, so that by the ninth month the infant is weaned. Unless it be midsummer, or on account of some special condition, complete weaning should take place about the tenth month.

In addition to giving a bottle in the method of partial or gradual weaning, a small piece of crust of bread or zwieback can be added to the dietary, besides a little thin beef soup or expressed meat juice.

If an infant while nursing does not increase in weight between five and six ounces weekly, then it is better to advise a careful examination of the breast milk. For this purpose numerous instruments have been devised, as Marchand's lactobutyrometer, but probably the simpler method of examination for cream and fat devised by Holt is best. This little instrument, which I show you, is known as the creamometer, and shows the relative percentage of cream and fat in the milk. A drop of milk placed under the microscope will easily tell the story.

Hand or Artificial Feeding.—If we cannot give our infant breast or human milk, then we must resort to artificial feeding. Our choice will lie between giving peptonized, humanized, pasteurized, sterilized, modified or boiled milk, or possibly some patent food.

The method of peptonizing milk with parcreatin and soda is too familiar to mention, and, as it is only used in sick babies, I will only allude to it.

Humanized Milk.—A pint of milk is set aside until the cream rises, and this cream is skimmed off and kept. To the milk remaining is added enough rennet to curdle it. The whey is strained off the curd and added with the previously separated cream to a pint of fresh cow's milk. This is known as humanized milk. In some infants it will be well borne during the first three months, and to this can be added farinaceous liquid for dilution if required.

Pasteurized Milk.—This is really partially sterilized milk, and consists of sterilization at a temperature of 167° F. instead of 212° F. This sterilization to be continued for from twenty minutes to half an hour. Pasteurized milk should only be used during the twenty-four hours following this process. A good apparatus for this purpose is the one known as Dr. Freeman's Pasteurizing apparatus.

Sterilization.—I desire to be put on record as stating that with our present knowledge nothing better than sterilized milk has yet been devised. On November 12, 1891, I demonstrated an improved Soxhlet sterilizer before the Section of Paediatrics of the New York Academy of Medicine. The sterilizers which are in actual use in this country are easily tampered with, so that there is no guarantee of the milk remaining sterile, whereas in the Soxhlet apparatus when the stopper is removed the bottle of milk must be used at once. The difference is very apparent if you will compare the two bottles.

Fluids for Dilution of Milk in Hand-Feeding.—*Barley Water.*—Take a tablespoonful of pearl barley, grind it in a coffee grinder, or pound it in an ordinary mortar, add one pint of cold water, and allow it to simmer slowly for about an hour. Strain and add enough water to make one pint.

Oatmeal Water.—Take a tablespoonful of ordinary coarse oatmeal, and add one pint of water. Allow it to simmer slowly for one hour and strain. Add enough water to make one pint. The same directions apply to making a household mixture of farina water, rice water, or sago water, using the same proportions as above.

Arrowroot.—Add two tablespoonfuls of arrowroot to one pint of water; allow it to simmer for half an hour, stirring it constantly.

Pasteur found that subjecting milk to a temperature of 160° to 170° F. for fifteen or twenty minutes will destroy all germs of tuberculosis, scarlet fever, diphtheria and pneumonia. As this is all that is necessary to make milk sterile, it answers all practical purposes. Heat above 165° F. destroys the starch fermenting ingredient of milk, called galactosine, which is an important loss to the infant.

Lact albumen, which is allied to serum albumen, is coagulated by heat. This produces the unpleasant smell which characterizes boiled milk. Milk sugar is destroyed or changed. Cream can be seen floating as fat globules upon the surface of sterilized milk, and it is necessary that the digestive function should change it to an emulsion before it can be absorbed. Caseine is also changed by sterilization. Baginsky states that it requires more rennet and a higher temperature to effect the digestion of the casein of sterilized than that of new milk.

Since sterilization produces the effect just noticed, Pasteurization, which is sufficient to destroy pathogenic bacteria, will answer our purpose better. Pasteurized milk however cannot be used after twenty-four hours. What asepsis in surgery is to antisepsis, so pure, natural, sterile milk is to artificially sterilized milk. Should we ever be able to receive milk from our dairies free from micro-organisms then we can easily discard artificial methods of sterilization and Pasteurization.

Modified Milk.—It has been several years since a Walker-Gordon Milk Laboratory was established in New York. The experiment is attempted to reduce the feeding of infants to a laboratory process of prescription writing. Blanks are given the physician, which are filled out according to the child's age and weight, calling for a definite per cent. of fat, milk sugar, albuminoids and water, and prescribing the number of feedings, the amount of each feeding, the percentage of alkalinity, etc. This is a practical method and appeals to the physician at first, but it is necessary to familiarize one's self with the mysteries of this method before one can properly judge of its merits. I have given modified milk a careful trial in my private practice. The milk is too expensive for hospital and dispensary work. Two children, aged respectively one year and nine months, were given modified milk. The first symptom encountered was constipation, which could not be relieved. We changed the formula many times but finally gave up in despair. Our next case was a healthy infant, with a good appetite, but a tendency to vomit small curds. For a time the child seemed to improve on modified milk, but the gain was no greater than I was accustomed to see under simpler methods of feeding. The child died of exhaustion following a pneumonia. Another child was given modified milk to relieve a catarrhal condition of the stomach and bowels; the formula was changed several times, but the child did not increase in weight sufficiently and it was therefore discontinued.

A very interesting case is the following: A child, 11 months old, was given modified milk for an irritable state of the stomach. Although I continued to increase the quantity of sugar and cream, as is customary, the child did not increase in weight more than one pound in about two months. The bowels were extremely constipated, and solid, cheesy curds were passed in the stools. The milk was changed as often as once a week, and was finally abandoned as merely a laboratory experiment. The child was put on a more substantial diet, and although much stronger, it is a typical case of rachitis. I have seen three distinct cases of rickets in these laboratory fed babies, and if we can compare the ordinary infant that we see brought to our dispensaries from tenement houses fed with condensed milk and water, they are much the same class of rickets at less expense.

Infant Feeding in Disease.—The general rule for a weak catarrhal stomach with excessive vomiting is first, total abstinence from milk, second, if milk is given to peptonize it, and third, if vomiting still persists to discontinue all feeding and rely on nutrient enemata. In the latter case, it must be borne in mind that the rectum absorbs but does not digest, so it is very important to thoroughly predigest foods for rectal alimentation. It is always better to use small quantities. In pneumonia or severe febrile diseases, it is better to give children one-half the usual quantity that we would give in health. Sterilized water with an egg beaten with it is very nourishing.

In certain cases of meningitis, or where a semi-comatose condition exists and there is great irritability or active peristalsis in the lower bowel, it is better to give the bowel a rest and to rely on

Forced Feeding.—This consists in introducing in the stomach through a small Nelaton catheter, No. 9 or 10, at regular intervals, several ounces of peptonized milk, beef juice, chicken broth, veal broth, beef broth or mutton broth. Forced feeding is exceedingly valuable in avoiding schluck-pneumonie in infants that have been intubated. It is not a safe plan to permit one of the members of the family to introduce the tube into the stomach, for fatal cases have occurred as a result of liquids being poured into the bronchial tubes through a catheter which was inserted by mistake into the larynx. In cases of trismus we can then resort to nasal feeding. This method is frequently resorted to in malignant cases of diphtheria.

LA PERLÉCHE.

By Francis T. B. Fest, M. D.,
Health Officer, Plank Road, Mich.

WHEN I read in the issue of June 1st of Pediatrics the editorial on "La Perléche," I recognized a disease which had puzzled me for about four months. Since that time the children in my neighborhood complained of a peculiar inflammation of the lips. The phenomenon was the same as described by Dr. James Nevins Hyde—thin and white or yellowish scaly crusts that show after removal a rough, inflamed surface. The contagious property stands beyond doubt. At first I was short of a name, but soon I found one. After seeing more cases I made the observation that it was often combined with aphthæ. In a few instances I have seen the macerated patches extend over the mucous membrane of the mouth. Such patches as were situated on the labial surfaces were dry and scaly, but the lesions on the mucous membrane showed the characteristics of aphthæ—the red seam around the whitish patch. Now I had a name—*aphthæ labrosæ.*

According to my experience the disease is not limited to the lips exclusively. I have observed it on every part of the body where derme and mucosa meet except at the anus, and I have no doubt it will be observed there also. In some families it took a peculiar course. In one the boy had the lips affected, the sister lips and eyes, and the mother the eyes alone. In another, one boy showed aphthæ, the little sister sore eyes, and the mother lips and mouth. On inspection of the eye it was possible to see a circumscribed blepharitis, with the appearance of the aphthous patches so common in the mouth. Often there was present infiltration of the conjunctiva. The older the patient the worse the conjunctivitis. In three cases of mothers who were infected by their children, I noticed extreme photophobia and epiphora. In two cases I could see exactly the same excoriations on the border of the eyelids as was seen on the lips. Therefore I styled this form in my notebook as *blepharitis aphthosa.*

In the case of one infant the mouth was free, but lips, eyes and nose affected.

One little boy had the excoriation at the lips and on the glans penis. I saw one little girl who complained of awful burning at micturation. Inspection showed on the labia majora a few excoriations, and the vulva showed the aphthous patches.

All this convinced me that I had to deal with the same affection which I now recognize as la perléche, only in my experience the disease is not restricted to the lips.

The treatment was simple. I touched the patches once with dioxide of hydrogen or a very weak solution of nitrate of silver (eyes). For the lips I used boro-glycerol, because the child did not object to the sweetish taste of this application. The preliminary touching with dioxide of hydrogen or nitrate of silver was essential, for it destroyed the cultures at once. Recovery was rapid.

Anti-Vaccinationists Getting Vaccinated.—Gloucester, in England, sixteen miles from Berkeley, where Jenner made his discovery of vaccination, has been visited with an epidemic of smallpox. The "antis" in the place have for years been vociferous in their opposition to vaccination, but when the outbreak of the disease began to assume alarming proportions, almost every one of them hastened to get vaccinated. Some of these had the honesty to confess that they had been in error, but the majority said nothing at all, being vaccinated quietly, some even going to towns at a distance from Gloucester in the hope that the fact of their apostasy from the holy cause of the antis might escape publicity. The editor of the paper which had led in the anti-vaccination crusade could not get away, so he published a card to the public, announcing that he had been "influentially urged" to get vaccinated, and hence he had sacrificed his "personal convictions" in the hope of contributing to "the public good." The role of martyr in a bad cause is evidently not to the liking of this little man.—*Med. Rec., 1896, xlix, 759.*

MECKEL'S DIVERTICULUM.*

By W. C. DUGAN, M.D.,
Louisville, Ky.

THE specimen which I show you is presented as an anomaly more than anything else. It is a Meckel's diverticulum. The patient, male, aged 11 years, was operated upon for supposed appendicitis. When the abdomen was opened in the usual site for appendicitis, this diverticulum presented, springing from the small intestine, as they always do, about eighteen to thirty-six inches from the caecum. You will observe that it is about seven inches in length by one and a quarter inches in diameter. I desire to state that I believe many cases of so-called sacculated appendicitis upon which we have operated have really been Meckel's diverticula. In this case the pedicle was twisted until it was about the size of a crow's quill, and until it had been untwisted we thought it was a sacculated appendix and that it sprung from the large intestine. But further investigation proved that it sprung from the small intestine; we then brought the intestine up carefully, exposing about twelve inches of it, and, untwisting the pedicle, found its base was really as large as any other part of the apophysis, its small appearance being due to the torsion. We then ligated the diverticulum near its base with a double litagure and cut between. While considering as to how the pedicle should be treated, the intestine above the diverticulum being greatly distended with gas, an accident happened which we very much feared might occur, the ligature slipped and left an opening, of course, the full size of the diverticulum. We then carefully closed the opening in the intestine with a double row of sutures.

In this connection I want to emphasize the importance of seeing at the time of the operation whether we are dealing with an appendicitis—so-called sacculated—or whether the condition is a Meckel's diverticulum. This is very important. If we simply compress a diverticulum with a ligature, that ligature may slip in movements of the bowel and allow the contents to escape.

I remember showing to this Society two years ago a specimen of sacculated appendix that I had removed, the patient having all the symptoms of intestinal obstruction. The appendix was ligated and removed and the stump dropped back into the cavity. I felt sure at the time that it was a sacculated appendix. The young man had two movements of the bowel that night and appeared to be doing well. The next day he suddenly went into collapse and died within a few hours. I am confident now that this was a case of Meckel's diverticulum and that the ligature slipped. In that case I believe if I had taken the precaution to expose the intestine thoroughly I would have discovered the true nature of the trouble, and might have saved my patient.

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* Reported to the Louisville Surgical Society.

Simple twisting of the appendix often produces symptoms of acute obstruction of the bowel, and in the case I have reported I believe the symptoms were the result of a twisting of the diverticulum upon itself, causing paresis of the bowel.

This makes the third specimen found by surgeons in this city during the last few years. The others were not the cause of trouble, and were accidentally found in the course of an operation for some abdominal disease ; and it makes the second one I have found, both of which were twisted several times at the base and gangrenous. There was no adhesion. Patients both had complete obstruction of several days' standing, and were in an extremely septic condition.

I made no examination of the bowel in the first case, considering it, without any question, an appendix ; and the last case came very near being overlooked and would have been recorded as a sacculated appendix.

All such appendices should be carefully examined, for the treatment might be different, unless the inversion method of treatment of the stump is practiced in appendicitis, then, of course, it would make no difference.

DISCUSSION.

Dr. A. M. Vance : I have only had one case of diverticulum in my abdominal work. That occurred in a child two and one-half years old, operated upon for right inguinal hernia which had become strangulated. Cutting into the sac, I found it to contain the caecum, vermiform appendix and a part of the ileum. Attached to the ileum was a diverticulum about half as large as the one shown by Dr. Dugan and perfect in shape. In this case I did not remove the appendix nor the diverticulum, but returned them to the cavity, closing the ring.

Note.—In *Mathews' Med. Quar.*, *Vol. 1*, *No. 3*, Dr. Tuley reports two cases of Meckel's diverticulum found at autopsy ; also Dr. Vance's case referred to in the foregoing discussion, and mentions a case of intestinal obstruction, reported by Dr. Councilman, in which a Meckel's diverticulum was found. The *Brit. Med. Jour.* for July contains a case of "Prolapse of Meckel's diverticulum (omphalo-mesenteric duct)" reported by Railton. I append abstract of these five cases which may be of interest in connection with the foregoing report.

"These specimens (Tuley) were obtained during my residence at the New York Infant Asylum, and were the only cases recorded, so far as I know, in three hundred autopsies. The first was obtained from a male child, aged nine and a half months, who died from lobar pneumonia. The diverticulum arose at an acute angle from the ileum, three feet from the caecum, and is 6.5 centimeters in length, measuring from the center of the gut, and was so situated as to allow the intestinal contents, in part at least, to pass into and out of it, and then on through the ileum. At its junction with the ileum its diameter is the same as that of the gut. At its end, which is curled forward upon itself, there is a tumor-like projection with a constriction at its base.

"The second was from an athreptic child, aged four months, the intestine being much contracted throughout. It occupied the same position relatively as the one just described, and measures three centimeters in length. This child died of acute gastro-enteritis. In neither case was there a fibrous band attaching the diverticulum to the umbilicus or abdominal wall.

"A delicate male child (Vance) had a reducible inguinal hernia, which became irreducible and strangulated. The usual operation for this condition was performed, strangulation having existed six hours. The contents of the sac proved to be two coils of ileum projecting through the ring, with a Meckel diverticulum wedged in between them, thus making reduction by taxis impossible. * * The diverticulum measured at least seven centimeters in length, and its lumen was as large as that of the gut. The usual steps for a radical cure were gone through with, the result being satisfactory.

"This specimen (Councilman) is interesting from the extraordinary manner in which the strangulation was produced. The symptoms came on suddenly, and the patient died sixteen hours afterward. The entire small intestine lies on this plate. At the lower portion of the plate there is a large mass of intestine, which is intensely congested and hemorrhagic. The lumen is filled with almost pure blood. Thus the strangulated portion comprises about one-half of the small intestine. A portion of the mesentery attached to the strangulated intestine is also intensely congested, thickened and hemorrhagic. A distinct band of constriction separates this portion of intestine from the other. Around this, what appeared to be a loop of intestine was wrapped. At first it was difficult to understand the condition. It seemed as though the strangulation was due to the mass of intestine having passed through a loop in the mesentery immediately beneath the intestine. On emptying the gut and examining the constricting band more closely, it was found to be the diverticulum of Meckel, which had become wrapped around the mesentery, with the end passed under, making a complete tie. I here reproduce the condition. Although intestinal strangulation due to Meckel's diverticulum is not at all uncommon, it does not usually take place in this way. The end of the diverticulum may become attached to the peritoneum in various places, and through the loop so formed the intestine may pass. It is difficult to see just how the condition I show here could have arisen. The end of the diverticulum which had passed under the loop was greatly swollen, and this acted as a regular button, and could not return.

"The patient (Railton), aged eleven months, was admitted into the hospital with a small, smooth projection from the umbilicus about half an inch in length, an eighth of an inch in thickness, red in color, cylindrical, and evidently covered with mucous membrane. There was no aperture leading into the abdominal cavity to be found. There was a foul discharge from the navel for some months after birth, but this had now disappeared. The projection was ligatured and cut off, thus removing all trace of the abnormality. The microscopical examination left no doubt that in this case a prolapse of Meckel's diverticulum had occurred."

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PRACTICAL NOTES.

Physiology of Childhood.—There is scarcely an organ which behaves in the young as it does in later life. They are more delicately organized, and contain a larger proportion of water and are more easily injured. The bones contain less earthy matter, animal matter predominating. The brain is being rapidly developed, much more so than any other organ. The arterial pressure is not so great. The digestive organs of infants present many peculiarities. The digestive glands are but gradually prepared for their functions. The salivary glands are only partially active. The secretions of the stomach contain more lactic than muriatic acid. The stomach is less elongated and occupies a more vertical position than in the adult, hence vomiting is more frequent, more readily produced, and causes less disturbance to the general system. The liver is much larger in proportion to the size of the body than it is in adult life. All of these differences must be taken into consideration in treating infants and children, and necessitate changes in remedies and doses.—*Diet. and Hygien. Gaz., 1896, xii, 394.*

Some Good Expectorants and Cough Remedies.—The following formulæ have been thoroughly tested by Dr. James K. Crook, of New York, in hospital and private practice, and may be trusted to render good service in properly selected cases :

1. For irritative coughs :

℞	Phenacetin,	20 to 40 grains (1.3 to 2.6 grammes).
	Ext. glycyrrhizæ,	20 grains (1.3 grammes).
	Sacch. albi,	2 drachms (8 grammes).

Fiat pulvis, in chartulas xx dividendus.

Sig. One to be taken at one, two, or three-hour intervals.

2. For same of more obstinate character :

℞	Phenacetin,	50 grains (3.20 grammes).
	Ext. glycyrrhizæ,	20 grains (1.3 grammes).
	Codeinæ sulphatis,	2 to 4 grains (0.13 to 0.26 gramme).
	Sacch. albi,	2 drachms (8 grammes).

Fiat pulvis, in chartulas xx dividendus.

Sig. One to be taken every two, three, or four hours.

3. When an expectorant effect is desired :

℞ Extracti glycyrrhizæ,	20 grains (1.3 grammes).
Phenacetin,	20 to 40 grains (1.3 to 2.6 grammes).
Ammonii muriatis,	1 to 2 drachms (4 to 8 grammes).
Sacch. albi,	2 drachms (8 grammes).

M. et in chart. xx div.

Sig. One powder to be taken in a little water every two, three, or four hours.

4. A good stimulating expectorant for adults :

℞ Apomorph. hydro-chloratis,	1 grain (0.065 gramme).
Syr. ipecacuanhæ,	2 fluidrachms (8 cubic centimeters).
Syr. tolutani,	1 fluidounce (30 cubic centimeters).
Aquæ dest.,	q. s. ad 3 fluidounces (90 cubic centimeters).

Ft. mist.

Sig. A teaspoonful five times daily at four-hour intervals. Shake well before using. Prepare freshly as required and keep in a dark-colored bottle.

5. A good stimulating expectorant for every-day bronchial and phthisical coughs :

℞ Ammonii muriatis,	2 drachms (8 grammes).
Tincturæ opii camphoratæ, spiritus chloroformi, syr. ipecacuanhæ,	āā 2 fluidrachms (8 cubic centimeters).
Syr. prun. Virginianæ,	q. s. ad 3 fluidounces (90 cubic centimeters).

M. Sig. A teaspoonful every three or four hours. Shake well before using.

6. For weak and fruitless coughs with loss of bronchial power :

℞ Ammon. carbonatis,	1 to 2 drachms (4 to 8 grammes).
Tinct. tolutani,	2 fluidrachms (8 cubic centimeters).
Syr. senegæ, spiritus vini gallici, syr. simplicis,	āā 4 fluidrachms (16 cubic centimeters).
Aquæ dest.,	q. s. ad 3 fluidounces (90 cubic centimeters).

Ft. mist.

Sig. A teaspoonful in a little water every two, three, or four hours.

7. For asthmatic and emphysematous coughs:

℞ Spiritus ætheris compositi,	4 fluidrachms (16 cubic centimeters).
Potassii iodidi, ammon. muriatis,	āā 2 drachms (8 grammes).
Codeinæ sulphatis,	2 grains (0.13 gramme).
Syr. tolutani,	4 fluidrachms (16 cubic centimeters).
Aquæ dest.,	q. s. ad 3 fluidounces (90 cubic centimeters).

M. Sig. A teaspoonful every two, three, or four hours.

8. For recurring bronchitis or winter cough:

℞ Terebene,	6 fluidrachms (24 cubic centimeters).
Ol. eucalypt.,	2 fluidrachms (8 cubic centimeters).

M. Sig. Ten to fifteen drops on a little sugar every three or four hours. These doses are for adults. For children, they should be reduced according to the age of the patient.—*Medical Record—Univers. M. J., 1896, x, 125.*

Cowling's Rule for Doses for Children.—The proportionate dose for any age under adult life is represented by the number of the following birthday divided by 24—i. e., for one year, $\frac{2}{24}=\frac{1}{12}$; for two years, $\frac{3}{24}=\frac{1}{8}$; for three years, $\frac{4}{24}=\frac{1}{6}$; for four years, $\frac{5}{24}$, and so on.

Bleeding after Excision of Tonsils.—In cases of severe hemorrhage after tonsillotomy Mr. T. Mark Hovell recommends the following procedure:

Mix together

Tannic Acid, 3 parts,
Gallic Acid, 1 part,
and add a few drops of water.

Then knead the powder until it is a *hard* mass, and from it take a piece sufficient to form a ball the size of a small marble.

Place this on the forefinger of the hand corresponding to the side of the patient from which the hemorrhage is taking place, and by this means introduce it into the patient's mouth and rub it firmly against the bleeding surface, making counter pressure with the palm of the other hand placed on the side of the head over the region of the tonsil.—*Practitioner, 1896, lvi, 568.*

New Method of Administering Calomel.—J. N. Hall, in a letter to the *Medical News*, recommends in cases of mania or other mental disease, when the calomel could not be given by mouth without a struggle, that a simple and effective expedient is to blow calomel into the nostril through a tube or roll of paper. The patient may be blindfolded, or, better, led to shut the eyes tightly, to escape having the application made directly to them, for such deception is certainly justifiable in some cases. The drug is nicely distributed over the nasal tract, finds its way into the intestinal tract, and operates as if given by mouth. It is not painful nor disagreeable.

Purulent Rhinitis of Children.—J. HOMER COULTER (*Chicago Med. Recorder*, *1896*, *x*, *191*) recommends cleanliness, first, last and all the time as a necessity. He prefers the ordinary alkaline solution modified approximately as follows :

℞	Sodii bicarb,	ʒ ss.
	Sodii biborate,	ʒ ii.
	Ac. carbolic,	gtt. xxv.
	Glycerin,	℥ i.
	Aq. rosae,	℥ ii.
	Aq. dist,	q. s. ad. O i.

M. Sol. Use freely night and morning in an atomizer.

After first thoroughly cleansing the cavities with the above, he introduces some such solution as :

℞	Eucalyptol,	gtt. v.
	Thymol,	gr. ii.
	Campho-phenique,	℥ ss.
	Sabalol,	q. s. ad. ℥ iii.

M. Sol. Use night and morning after solution No. 1.

Without a thorough cleansing of the cavities any medicament would be practically useless, as it would scarcely reach the mucous membrane through such a muco-purulent coating.

Ivy Poisoning.—Recent investigations quoted in the current number of *Science* establish the fact that the essential poison of *rhus toxicodendron* can be nothing but an oil. Hence water will not remove the poison from the surface, but alcohol will, if applied freely.—*Med. News*, *1896*, *lxviii*, *529*.

Cloudiness in Antitoxin Serum.—TSERSHGOWSKI states (*Vratsch*) that precipitation or cloudiness in serums does not necessarily depend upon the presence of bacteria, but may be due to the method of preparing the serum. One of the causes is the occasional lack of care in not separating completely the fibrin from the blood, which is occasionally not completely separated at the end of three days. This slowness in separating may be due to excessive bleeding or to hunger on the part of the animal immediately before it is bled, which causes a reduction in the number of the white blood corpuscles. It may also be due to an affection of the kidneys, brought about through the treatment in immunizing the horses. Another class of causes for the cloudiness is the change in the quantity of free alkali present, or change in the solubility of the albuminous and fatty bodies present in the serum through the addition of certain antiseptics. The addition of carbolic acid as an antiseptic is apt to produce cloudiness, since the acid can be used only in the form of a solution, and the water used in making this solution produces at first an opalescence and later a decided cloudiness, while the carbolic acid itself forms insoluble combinations with the albuminous constituents. Professor Dinkler has taken exactly the opposite view as regards carbolic acid, as he thinks (*Pharm. Zeit*) that it is to be preferred to camphor, which is used by some manufacturers, though the results depend largely upon the manner in which the carbolic acid is introduced.—*Am. Druggist, 1896, xxviii, 276.*

Preparation of Pure Hydrogen Dioxide.—A neutral or acid solution of hydrogen dioxide may be evaporated down, if quite pure, to a strength of 50 per cent. If this be then further evaporated down in vacuo at gradually elevated temperature a nearly pure hydrogen dioxide comes over at about 84 to 85 degrees C. The process has been patented in Germany.—*Am. Druggist, 1896, xxviii, 275.*

Society Report.

AMERICAN ORTHOPEDIC ASSOCIATION.

THE tenth annual meeting of the American Orthopedic Association, held in Buffalo, N. Y., May 19, 20 and 21, 1896, was introduced by a scholarly and thoughtful address on the **Scope and Mission of Orthopedic Surgery** by the President, DR. ROYAL WHITMAN, of New York. The quality of the papers read during the session was creditably high, and many contributions of permanent value will be embodied in the forthcoming Volume of Transactions. A feature of the first day's session was a lecture on **Flat Foot**, by DR. E. H. BRADFORD, of Boston, Mass., in which the lantern was used to demonstrate the form and function of the natural foot, as shown by prehistoric footprints, ancient sculpture and photographs of the barefoot races and the deterioration from this standard in the dressed, civilized foot, as shown in art and nature.

The members were entertained at luncheon on Tuesday, May 19, by Dr. L. A. Weigel, of Rochester, and on Thursday by Dr. Bernard Bartow, of Buffalo. Dr. Roswell Park gave a dinner to the members and a few guests on Wednesday evening at the Buffalo Club. Good fellowship was a marked feature of the meeting, to which the hospitality of the Western New Yorkers contributed not a little.

The next meeting of the Association will take place in May, 1897, in Washington, D. C., in affiliation with the American Congress of Physicians and Surgeons. Before adjournment the following officers were elected for the ensuing year:

SAMUEL KETCH, M. D., New York, President.
HARRY M. SHERMAN, M. D., San Francisco, 1st Vice-President.
WISNER R. TOWNSEND, M. D., New York, 2d Vice-President.
E. G. BRACKETT, M. D., Boston, Treasurer.
JOHN RIDLON, M. D., Chicago, Secretary.

Iodoform in Joint Tuberculosis.--An important discussion at this meeting revealed great unanimity and positiveness among the speakers as to the non-utility of iodoform-glycerine injections in joint tuberculosis. This discussion was elicited by a very carefully prepared and able paper by Dr. Harry M. Sherman, of San Francisco, Cal., in which the author summarized his results after these injections, which in one series of cases were intra-articular, in another intra-osseous. He reported the effects of the injections, which were most carefully and thoroughly performed and in most cases repeated a number of times, as in a few cases moderately beneficial, in a considerable number decidedly detrimental, and in the remainder without appreciable influence upon the disease.

Most of the cases were of hip-joint disease, and the injections were added to the usual protective orthopedic treatment. Dr. Sherman's results were so strongly corroborated by the other speakers as practically to settle the matter, so far as American orthopedic surgeons are concerned. Only one speaker reported generally successful results, and one claimed good effects from iodoform-ether injections in cases where sinuses were present.

In order to explain the more favorable opinion held by many general surgeons, it was suggested that their aim of treatment and standard of results in these joint affections differed somewhat from those of orthopedic surgeons. In surgical treatment the emphasis was said to be laid on the relief of pain, while in orthopedic treatment the allaying of muscular spasm and the correction of deformity appeared to be most sought after ; and in interpreting reported results these differing points of view should be taken into account. However this may be, we have such high authority as Professor Senn, of Chicago, and others, favorable to the procedure, while it will find hereafter little support from American orthopedic surgeons.

The speakers at the Buffalo meeting particularly emphasized the necessity in joint tuberculosis for strict orthopedic treatment, whatever additional means might be employed.

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Book Review.

NFANTILE MORTALITY DURING CHILD-BIRTH, AND ITS PREVENTION.

By A. Brothers, M.D.,

Visiting Gynecologist to Beth Israel Hospital and to the New York Clinic for Diseases of Women ; Instructor in Operative Gynecology at the New York Post-Graduate School and Hospital, etc. 179 *pages.* $1.50.
(*Phil., P. Blakiston, Son & Co.*, 1896.)

THIS essay is the outcome of the Wm. Furness Jenks Prize, which was won by the author. The Prize Committee are to be congratulated and the author is to be heartily commended for a brilliant work dealing with infantile mortality during labor, and the first few critical hours after birth. The language is clear and the classification methodical. It is a book written on advanced lines, and will not become musty from non-use, as it is the result of practical observations by a shrewd and careful observer. Under general maternal diseases we note with satisfaction that active treatment is advocated in eclampsia, for it is our experience that nothing can diminish the high fœtal mortality except early operative interference. The chapter on dystocia is safe, and rich in good advice, and we hail with pleasure the advice to delay operative interference so long as mother and child are in good condition. We claim there is too much operating during labor, and the sooner men are taught to operate only when the indications are clear and unmistakable, the better for both mother and child. The author does not put sufficient stress upon the frequent occurrence of occipito-posterior position, which is a frequent cause of maternal exhaustion and consequently of fœtal exhaustion and death.

If nothing is taught but the absolute necessity for an examination of the pelvis, the object of Dr. Brothers' book has been attained. More babies die because they cannot be delivered through a contracted pelvis than is generally appreciated. The fault lies not with the physician but with their teachers and their colleges, for the writer of this essay hardly knew what a pelvimeter was when he graduated and had only a musty idea about contracted pelvis. Since then he has ever followed the maxim, "know your patient's pelvis as you know her face." Brothers advocates the use of quinine, and deprecates that of ergot during labor. Accouchment forcé receives a prominent place as a measure which, though old, is one of the best. Glycerine injections for the induction of premature labor are mentioned only to be condemned and properly so. Version *versus* high forceps is discussed logically and the maxim insisted on, that when the head is above the brim do version, as the operation of election. We note with satisfaction that symphyseotomy is disposed of in a lukewarm fashion, since any operation which accords a fœtal mortality rate of 15 per cent. cannot be called a life-saving operation. The chapter on asphyxia neonati is very complete and is of the greatest interest. The methods of artificial respiration are detailed at length, but we fail to find mention of the Dew method, which, to our minds, is the most satisfactory one at our command. The last chapter of the work—diseases and accidents of the new born—is interesting and valuable.

Our only criticism concerns the statistics, which are ancient and therefore without value, for they were culled before the antiseptic era. What held good then carries no weight now.

S. Marx, M.D., New York.

* * *

Abstracts.

THE PATHOLOGY AND TREATMENT OF RICKETS.

The *Journal des Praticiens*, February 29, 1896, describes the method which it believes should be resorted to in the treatment of the rickets of early life. In the first place it must be remembered that the disease depends upon an insufficient absorption and assimilation of lime salts and other substances adapted to the formation of healthy bone tissue; second, we must not forget that, according to one theory, the bones are decreased in strength by a process of auto-intoxication which is generally associated with an artificial milk diet and with dilatation of the stomach; third, we must remember that some cases of infectious disease produce rachitic tendencies, and that malaria and syphilis are peculiarly apt to do so.

Whatever may be the theories as to the pathogenesis of rickets, the *Journal des Praticiens* points out that the treatment is fairly clear. In the first place, the greatest possible attention must be paid to the diet during the early months of life. Care should be taken to see that the food contains the normal proportions of bone salts, and as much fresh air as possible should be obtained by the patient. In addition to this hygienic treatment it is well to administer mineral materials, and the following solution of phosphate of sodium is of value:

℞	Phosphate of sodium,	4 drachms.
	Pure hydrochloric acid,	2½ drachms.
	Distilled water,	1 quart.

One to four teaspoonfuls of this solution may be given each day in milk, according to age. In other instances a small pinch of the following powders may be administered night and morning:

℞	Sugar of milk,	2½ drachms.
	Phosphate of lime,	2½ drachms.
	Lactate of iron,	1 drachm.

Or,

Saccharated carbonate of iron.
Lactate of iron.
Phosphate of lime, of each, 1 drachm.
Sugar of milk, a sufficient quantity.

On the other hand, Albert proposes a more simple remedy, namely, the administration of from two teaspoonfuls to a tablespoonful of the following solution each day :

Lime water,	6 ounces.
Simple syrup,	2½ ounces.

In still other instances cod-liver oil is a most efficient remedy, but should it produce indigestion the following mixture of Trousseau's may be employed :

℞	Pure butter,	1 lb.
	Chloride of sodium,	1 drachm.
	Bromide of potassium,	7 grains.
	Iodide of potassium,	2 grains.

This should be taken with food in the course of three or four days. Sometimes it is well to administer at the same time $\frac{1}{200}$ grain of phosphorus.

Should syphilis be suspected as the cause of the rachitic tendency, it is hardly necessary to add that mercurial treatment, chiefly by inunction, should be resorted to.—*Therapeutic Gaz.*

OPERATION FOR VENTRAL HERNIA IN A CHILD AGED THREE YEARS OLD.

W. B. Coley (*Postgraduate*, *1896*, *xi*, *232*) reported a case of ventral hernia : Ventral hernia other than that variety following abdominal operations is seldom met with in children, and even in adults is not very common. It usually occurs in the median line, more frequently above the umbilicus than below; sometimes it is found a little to one side of the median line in one of the lineæ semilunaris. In children it is due to a congenital defect in the abdominal wall; in adults it is usually caused by some sudden or severe exertion, especially when pushing or pulling with the hands raised above the head.

In his case, that of a little girl, aged three years, the hernial protrusion was about the size of a small English walnut; the opening was just above, but entirely distinct from the umbilicus, and readily admitted the thumb. She had been treated for a considerable time by the usual method of treating umbilical hernia in children, namely, by means of a small pad made of a button mould and a strip of rubber plaster two inches wide, entirely encircling the abdomen. Nearly all cases of umbilical hernia in infants and children, before they reach the age of fourteen, are cured by this simple method. Ventral herniæ such as this one, on the other hand, do not yield such favorable results from mechanical treatment. No improvement whatever had been observed in the present case, and on account of the large size of the opening, operation had been recommended.

The operation consists in making a median incision directly over the opening. Great care must be used in making this incision, because the covering of the hernia consists in little more than the skin and a thin layer of fascia. The overlying tissues are dissected back until the edges of the recti muscles are exposed. The peritoneum is now opened, and the omentum and bowel kept from protruding by means of a small pad of gauze. The peritoneum is too thin to close by a separate suture, and is, therefore, included with the transversalis fascia. The opening is closed by a continuous suture of kangaroo tendon, which includes both peritoneum and fascia. The skin is now sutured with a fine catgut without drainage. The wound is dressed the same way as the ordinary hernia wound, with the gauze and moist bichloride gauze.

CARCINOMA OF THE RECTUM IN A YOUTH OF THIRTEEN YEARS.

CZERNY (*Munchener medicinische Wochenschrift*, *Med. News*, *1896, lxviii, 616*) has reported the case of a youth, thirteen years old, who presented in the rectum, just below the promontory of the sacrum, a tongue-shaped tumor, attached posteriorly, and ulcerated upon its inner surface. A small piece removed presented the arrangement of a cylinder-cell proliferation, and on account of the age of the patient a tentative diagnosis of papillary adenoma was made. Radical operation was, however, advised. The tumor had been in process of development for six months. The rectum was resected for a distance of 2½ inches in conjunction with osteoplastic division of the fourth sacral vertebra. The carcinomatous ulceration involved the rectum for a distance of an inch and a half, and extended through the muscular into the serous coat. All of the involved structures were removed, but the circular suture of the intestine failed to hold securely, so that a small fecal fistula resulted.

ABDOMINAL SECTION PERFORMED ON AN INFANT.

J. E. MOORE (*Med. Journ.*, *1896, lxiii, 717*) reports the following case of laparotomy upon an infant. On January 23, 1896, Baby F., aged seven months, was brought to him suffering from what proved to be an umbilical hernia. The child was very frail, weighing only twelve pounds. It had been born at seven months, and is said to have weighed but two pounds when born. Its umbilicus had always been moist and rather prominent. A few days before he saw it, it had been attacked with a severe cough, and the umbilical protuberance had gradually enlarged. Upon examination, a hernia about as large as the first two phalanges of the index finger presented. The surface was raw and congested, and the child was very weak, constantly crying and straining, and gave symptoms of a strangulated hernia. A probe could be passed through the apex of the hernia into the abdominal cavity. The child was taken to the operating room and prepared for operation in the usual manner. At first we feared to give the little one chloroform, because he was so very frail. An incision was cautiously made through the outer wall of the hernia and gut found in the center. The umbilical opening was enlarged above and below. The child screamed so that the intestines could not be controlled, and Dr. Cutts administered chloroform. We then found that the hernial sac was composed of what seemed to be the remains of the umbilical cord, and that the gut contained in it was a Meckel's diverticulum with an opening in its extremity. The diverticulum projected at a right angle from the small intestine, and was about two inches and a half long. The child was in collapse, so that removal of the diverticulum could not be considered. The opening in the gut was closed with Lembert sutures of silk, the bowel returned, and the abdominal wound closed with silk sutures. The child was carried home in its mother's arms in a street car. It made an uninterrupted recovery.

ENCEPHALOCELE: OPERATION — RECOVERY, FOLLOWED BY HYDROCEPHALUS.

J. M. Maury (*Memphis M. M., 1896, xvi, 186*) reports the case of a male, aged 3 weeks. At birth the child had a lump on the back of its head the size of an egg; that lump had steadily increased in size, but gave no trouble except from its size and position.

The tumor, three weeks after birth, was half the size of the child's head; was attached to the occipital region by a broad pedicle; gave distinct fluctuation; was not reducible, and transmitted light except at the base, where it was opaque. The coverings were tense and shining. There was no fluctuation either in the tumor or in the fontanelles.

The tumor was kept under observation for four and a half weeks, during which time the size gradually increased, until, at the age of 7½ weeks, it was a shade larger than the child's head.

On March 15 sixteen and a half ounces of fluid was drawn off by aspiration. Though this did not completely empty the sac, the opening in the skull, which was in the median line just below the external occipital protuberance, and about three-fourths inch in diameter, could be distinctly felt. Through this opening protruded a portion of brain the size of the last phalanx of the thumb. The protruded brain matter was considerably firmer than normal, and easily reducible.

On March 16, a longitudinal incision laying open the sac was made; then, stripping up the dura to the opening in the skull, he transfixed it close to the cranial opening, tied it with heavy catgut, and cut away the redundant portion; flaps were then made from the pericranium and stitched over the pedicle.

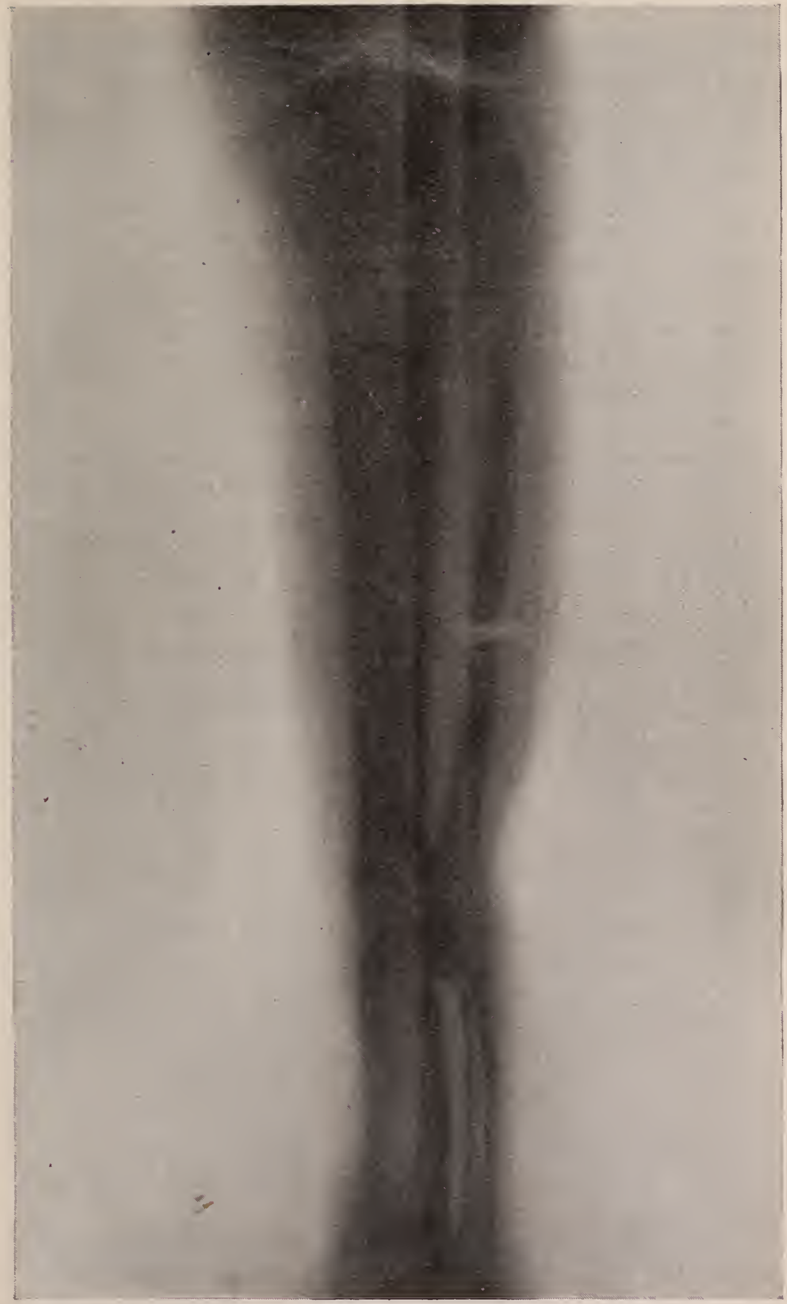
During the operation the child's head was kept elevated, to prevent draining the cranial cavity of its normal fluid. Primary union was secured, and the recovery uneventful. Pressure was made over the cranial opening for one month by means of pads and adhesive plaster.

Three weeks after the operation it was noticed that the head was enlarging and the fontanelles bulging. By the last of April the head was double its natural size, the sutures had all separated, and the facial appearance was that characteristic of hydrocephalus. The child died in the latter part of May from entero-colitis, the head having steadily increased in size.

OSTEOPLASTIC OPERATION FOR LOSS OF SUBSTANCE OF THE TIBIA—SKIAGRAPH SHOWING RESULT.

Howard Lilienthal (*Med. News, 1896, lxviii, 365*) reports the following case as worthy of record, because it exemplifies a rather rare surgical operation, and also because the result, as shown by the skiagraph, is quite different from what might have been reasonably surmised from the history of the operation, from inspection after recovery, and even from the most careful palpation.

M. S., a boy nine years old, was run over by a horse car, early in June, 1894, and sustained a compound comminuted fracture of the right tibia, with severe laceration of the soft parts. There had been a left coxitis resulting in ankylosis some years before, but otherwise the boy was healthy. Severe infection, with profuse suppuration, so menaced the life of the patient that a surgeon, who saw him a few days later, entertained the idea that amputation would be necessary. On June 8th, about six days after his injury, his parents brought him to Mount Sinai Hospital, where at once the wound was drained by several ample incisions. The tibia had been split and comminuted throughout almost its whole shaft, but by some lucky



chance the fibula was intact. Many little detached pieces of perfectly dead bone were removed, and it was found that from two to two and a half inches of the lower third of the tibia was gone. The destruction of tissue had been so great that daylight could be seen through the leg for a space fully as large as a half-dollar. Recovery from this operation was slow but uninterrupted. Several pieces of dead bone were removed at various times, but finally every sinus closed. The limb was, however, useless without the aid of splint and crutch, the loss of tibial substance allowing the foot to flap about in rotation around the unbroken fibula. An aluminum splint was now ordered, and the boy was allowed to walk about with the aid of crutches in the hope that ossification of the interposed fibrous tissue might take place.

On July 23, 18 5, fully ten months after recovery from the previous operation, an operation was done to restore the function of the limb by tibio-fibular osteoplasty, an operation suggested by success in similar cases in the hands of Gerster, Sands and others. A longitudinal incision was made over the hiatus in the tibia, all non-osseous tissue between the two ends of bone was removed with the knife, the bone itself being freshened with the chisel. A long incision was now made over the fibula and an osteotomy was performed, cutting the fibula at a point just above the lower extremity of the upper tibial fragment. The lower fibular fragment was now tilted inward in such a manner that its side rested against the lower piece of tibia, and its end rested against the end of the upper tibial fragment. Holes were drilled through fibula and tibia and the bones were fastened together with thick twisted silk. The upper piece of fibula was held by the bandage so that it slanted toward the tibia, but it was not sutured. The skin wounds were now entirely closed with catgut stitches, and a firm dressing with a plaster of paris splint was applied over all and was kept in place for three weeks, when, at the first dressing, all was found to be healed excepting two small sinuses, through which, later, the silk sutures and a small, loose piece of bone were removed. Bony union was very slow, and it was not until November, 1895, that he felt safe in allowing the splint to be discarded. Since that time the patient has been perfectly well and walks with only a very slight limp, which is due to his ankylosed left hip. The head of the fibula has returned to its normal position.

The skiagraph, which accompanies this paper, though taken through the stocking and at a distance of fifteen inches from the source of energy, has been in its lower part somewhat over-exposed.

The view is a posterior one, which accounts for the seemingly reversed relations of the bones. It will be seen at a glance that the result is an almost normal position of tibia and fibula, with a very thick and dense bridge of bone connecting them obliquely. A faint light streak in the lower part of this bridge seems to indicate the medullary canal of the displaced fibula, but the free end of the upper fibular fragment has separated from the tibia and has assumed its normal position, being connected with the lower fragment of fibula by this same bony bridge. How this state of affairs was brought about, only a series of skiagraphs, taken at different times during the healing process, might have disclosed. It is, however, probable that if the light streak referred to is in reality the marrow canal of the fibula, that the upper fibular fragment assumed its normal position before the ossification of the callus. The new bone is evidently denser and stronger than the normal, which accounts for the perfect functional result. The boy was presented at the meeting of the Surgical Society of March 25th.

ACUTE RETROPHARYNGEAL ABSCESS, WITH A REPORT OF THREE CASES.

Emil Mayer (*Eye and Ear Infirm. Rep., Jan., 1896*) gives the history of the following cases :

Case 1.—Celia M., aged 1 year, presented for treatment February 9, 1895. The mother stated that the child had been well until a week previous when, after some few days of restlessness with fever, she began to swallow with pain. Deglutition became more and more painful until the last day or two, when she would grasp eagerly for nutrition, only to let it go upon the first attempt to swallow, screaming with pain. In addition to this her respirations had become impeded. She presented a pitiable appearance. Her extreme pallor, with the mouth widely open and noisy inspirations, pointed to some obstruction high up. A glistening mass was seen on the posterior pharyngeal wall to the left of the median line, and the finger introduced showed it to be fluctuating. The examination induced a great degree of cyanosis.

With the head well extended and a mouth-gag inserted, a carefully guarded bistoury was introduced into the fluctuating mass and a quantity of pus and blood exuded, giving instant relief to all pressure symptoms. Shortly after it was eagerly suckling and swallowing in a natural manner. There were no recurrences, and at the end of a fortnight no traces of the trouble remained.

Case 2.—Morris R., aged 6 months, was brought to the Infirmary March 6, 1895. The history elicited was that of a continued illness for a month past, with increasing difficulty in deglutition and dyspnœa until the present time. He had been treated for bronchitis, croup and enlarged tonsils. An examination revealed a pale and emaciated infant, whose respirations were extraordinarily loud, whose lips were cyanotic, pulse thin and feeble, and with the forehead bathed in cold perspiration. Local examination was difficult, but a retro-pharyngeal abscess, situated to the left of the median line and rather low in the pharynx, was clearly seen. The finger felt it distinctly, and the cyanosis this occasioned was extreme. The child was sent into an adjoining room to rest while the sterilized instruments were being procured.

In fifteen minutes he was again brought in for an examination by my colleague, who had arrived. Held in his mother's lap, a small tongue-depressor was used, the child became cyanotic, gave one gasp, and died. Every attempt at resuscitation failed. No post mortem was permitted.

CASE 3.—Isaac K., aged 6 weeks, was brought to the clinic May 29, 1895, with a history of obstruction to deglutition lasting two weeks. No dyspnœa. Is fairly well nourished. Examination showed a firm swelling which was hard and tense to the touch on the posterior pharyngeal wall, low down and to the right. There being no point of fluctuation and the pressure symptoms not being urgent, he was kept in the ward under close observation and antiphlogistic treatment. He became better rapidly, and at the expiration of four days was taken home. At the end of the third week there was nothing left of the tumefaction, and he was discharged cured.

The interest in these cases lies in their variety. One incised and recovered, one died of exhaustion and marasmus before any remedial measures were instituted, and one became absorbed. It is this last kind of case that requires extremely careful watching.

SUDDEN DEATH AFTER LUMBAR PUNCTURE.

P. FUERBINGER (*Cent. f. Inn. Med., Am. M.-S. Bull., 1896, ix, 697*) reports a case of cerebellar tumor in which death suddenly occurred six hours after lumbar puncture. Of 86 previously published cases in which spinal puncture was carried out, death occurred unexpectedly in four. It is worthy of note that of five cases of cerebellar tumor, in which the author practiced lumbar puncture, no less than three died suddenly within 6 to 40 hours. In two of these cases autopsy showed tumor of the cerebellum; in all three there was considerable dilatation and filling of the lateral ventricles; in the subarachnoidal and subdural spaces of the spinal cord there was but little fluid. Tumors in the neighborhood of the fourth ventricle produce by compression partial or complete arrest of communication between the ventricles, subarachnoidal and subdural spaces. The possible cause of the sudden death after lumbar puncture, the author thinks, lies in disturbances of nutrition of the brain substance, caused by abstraction of fluid and consequent pressure exerted upon the cerebellum by the rigid margins of the depressions in the occipital bone.

INTRA-UTERINE FŒTAL ENDOCARDITIS.

In addition to various malformations of the heart and defects of development, the new-born infant may present evidences of endocarditis of intra-uterine or pre-natal origin. Under such circumstances almost invariably the right side of the heart is affected, in consequence of being the more active during fœtal life, just as the left side is usually involved when the endocarditis occurs during post-uterine existence. The most recent instance of this localization is reported by Brindeau, who details the case of an infant dying a few hours after birth and presenting post mortem evidences of tricuspid valvulitis with insufficiency. The child was born at term of a mother twenty-two years old, in excellent health, free from infectious diseases during pregnancy, and without a history of syphilis or rheumatism. The child was well developed, except for its head, which though well ossified was disproportionately small. Respiration was evidently interfered with, and the face was deeply cyanotic. In the submaxillary region upon either side was a regular, soft tumefaction, as large as an egg upon one side and as a walnut upon the other, yielding on pressure, but resuming its original fulness on removal of the pressure. Each presented pulsation and appeared to communicate with the other. Auscultation disclosed a bruit synchronous with the cardiac systole. The child lived only a few hours after birth and the post mortem examination disclosed a condition of tricuspid insufficiency. The heart was greatly enlarged, principally at the expense of the right side, and almost entirely filled the thoracic cavity. Puncture of the right auricle permitted the escape of a large quantity of blood, with the disappearance of the tumor upon either side of the face. The superior vena cava was greatly dilated and the jugular vein in even greater degree. The latter formed the facial swelling. All of the communicating veins were likewise dilated. The wall of the auricle was thinned, but that of the ventricle was thickened, exceeding even the thickness of the left ventricle. The tricuspid orifice was greatly dilated, permitting the introduction of the whole hand. The valve leaflets were thickened, shortened and incompetent. The pulmonary orifice displayed no abnormality. The orifice of the superior vena cava was enlarged ; that of the inferior was normal in size. The foramen of Botal was closed ; the ductus arteriosus was obliterated. The left side of the heart presented no abnormality. Histologic examination of the tricuspid valve disclosed a round cell infiltration in process of fibrous transformation, but without the presence of micro-organisms.

Zariquiey has reported a case of tricuspid and pulmonary obstruction and insufficiency, with right-sided ventricular hypertrophy, in an infant dead at the age of eleven months, which presented at birth cyanosis and a soft, prolonged cardiac murmur following the first sound of the heart, and occupying the period of silence. The murmur was audible over the whole cardiac area, though heard with greatest intensity at the left base, and was propagated toward the left clavicle.

Railton has reported the case of a boy who died at the age of four years, and presented, in addition to a deficiency of the interventricular septum and right-sided hypertrophy of the heart, old tricuspid valvulitis, which was believed to be of pre-natal origin, together with recent endocarditis, which was assumed to be a continuation of the original process.

That a pregnant woman suffering from infectious disease may give birth, prematurely or at term, to a child suffering from the same disease has long been recognized ; and recent experience demonstrates that the transmission takes place through the placenta. We have also learned that any infectious process is capable of causing endocarditis. It may thus happen that the pregnant woman is attacked with rheumatism, or typhoid fever, or influenza, or pneumonia, or other infection, while her unborn infant, though possibly escaping the primary disease, is the victim of an inflammation of the endocardium of the right side of the heart, the consequences of which persist throughout life.—Editorial, *Med. Rec., 1896, xlix, 702.*

REMOVAL OF A FOREIGN BODY FROM THE BRONCHUS.

T. K. Hamilton (*Austral. M. Gaz., 1896 xv, 132*) reports the case of a child, aged 5 years, with the following history:

On the afternoon of the 14th March the child had a bean (one of the seeds from the cone of the stone pine) in her mouth, and, commencing to cry at the time, drew it down into her larynx. If she cried the breathing became stridulous, with much dyspnœa, and air did not enter the right lung at all freely.

When seen on the 16th the child was rather restless, had occasional paroxysms of cough, breathing regular, and no stridor. A low tracheotomy was performed, and a suture inserted in each side of the incision through the trachea, to make the wound gape and keep it open. Then the child was inverted, and the foreign body was coughed out through the opening.

The child has since made a rapid and uninterrupted recovery. There was a slight rise of temperature on the second and third day, but it soon went down again to normal. The wound has almost completely united, and the little patient has recovered her usual health.

IS INHERITED SYPHILIS CONTAGIOUS?

ROBERT W. PARKER (*Edinb. M. J., 1896, June, 1124*) discussed this subject, and based, upon a twenty years' experience at the East London Children's Hospital, the followed conclusions:

1. The children of syphilitic parents very frequently show manifestations of a disease which is almost universally called "inherited syphilis."

2. In a large proportion of the cases this inherited disease is not syphilis at all, in that the disease is non-contagious, and would be better named "inherited from syphilis."

3. This inherited disease is true syphilis only if it conform to the ordinary tests which pertain to contact syphilis, and prove to be infectious and contagious.

4. The children of syphilitic parents occasionally inherit syphilis.

5. The mother suckling a child with such a disease may be infected by it.

6. A healthy wet-nurse and other persons brought into contact with such a child are even more liable to be infected by it than the mother.

7. Lymph taken from such a child, even although apparently well at the time, will probably, or possibly, invaccinate syphilis.

8. In reply to the question, Can a healthy woman give birth to a syphilitic child? the answer must be No.

9. Many women give birth to children who suffer from what is called "inherited syphilis" without themselves appearing to be infected. The explanation is obvious: this "inherited syphilis" is not

syphilis in the true sense, and the mother's so-called *escape* depends on this fact.

10. There is no recent clinical evidence which fully realizes Colles' teaching, viz., a mother suckling her own syphilitic infant and escaping an infection to which a healthy wet-nurse suckling the same infant and other members of her family, who have merely handled this infant, have succumbed, the latter facts being essential, if only to establish the contagiousness of the infant's disease in any and every given case asserted to be "inherited syphilis."

THE EFFECT PRODUCED UPON CERTAIN ANIMALS BY INJECTING INTO THE RECTUM THE TOXINS AND ANTITOXINS OF DIPHTHERIA AND TETANUS.

Paul Gibier (*Therap. Rev.*, *1896*, *iv*, *27*) after many careful experiments, concludes that :

1. In rabbits, dogs and guinea pigs, the rectal injections of relatively massive doses of diphtheria and tetanus toxins are followed by no apparent effects.

2. The rectal injections of even large doses of these toxins, many times repeated, does not produce the least degree of immunity against the toxin thus injected.

3. The rectal injection of doses of antitoxin (diphtheria and tetanus), at least a thousand times larger than the preventive subcutaneous dose, is powerless to prevent death from a minimum fatal dose of diphtheria or tetanus toxin.

4. The rectal mucous membrane may retain the active principles of the toxins and the antitoxins, or it may destroy them. In case it permits their absorption, the inference is indubitable that they are carried through the portal system to the liver, and destroyed by that organ.

SUPPLEMENT

TO

PEDIATRICS

For JULY, 1896.

THE REPORT OF THE AMERICAN PEDIATRIC SOCIETY'S COLLECTIVE INVESTIGATION INTO THE USE OF ANTITOXIN IN THE TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.*

This subject was chosen by the officers of the Society for its eighth annual meeting, with the belief that a large amount of valuable experience, not otherwise available, might in this way be reached and collated. It was also believed that a more trustworthy estimate of the value of the serum treatment of diphtheria might thus be obtained than by statistics taken from hospital practice. There are very few hospitals in America that receive diphtheria patients, and the conditions under which patients are admitted to hospitals, and the surroundings while there, are so different from those of private practice, that the measure of success in hospital cases cannot be taken as an index of the results which have been obtained upon this side of the Atlantic with the new treatment.

In order, therefore, to obtain an expression of opinion from American physicians as to the serum treatment, after what had been, with most of them, their first year's experience, a circular letter was prepared and issued by the Committee early in April. This was distributed through the members of the Society as widely as could be done during the time allowed. An attempt was made to reach as many physicians as possible who had had experience with the remedy.

The first surprise of the Committee was in learning how very widely the serum treatment had been employed, especially in the Eastern and mid-Western States. With more time, the number of cases collected might easily have been doubled and perhaps trebled; but enough reports have come in to enable one to see what opinion was held on the 1st of May, 1896, by American physicians who have used this remedy.

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* Reported at the Eighth Annual Meeting held at Montreal, Canada, May 26, 1896.

The circular letter asked for information upon the following points: Age; previous condition; duration of disease when the first injection was made; the number of injections; the extent of the membrane—tonsils, nose, pharynx and larynx; whether or not the diagnosis was confirmed by culture; complications or sequelæ, viz., pneumonia, nephritis, sepsis, paralysis; the result; and remarks, including other treatment employed, the preparation of antitoxin used, and general impression drawn from the cases.

Reports were returned from 615 different physicians, with 3,628 cases. Of these, 244 cases have been excluded from our statistical tables. These were cases in which the disease was said to have been confined to the tonsils and the diagnosis not confirmed by culture, and therefore open to question. A few cases were reported in such doubtful terms as to leave the diagnosis uncertain. The figures herewith given are therefore made up from cases in which the diagnosis was confirmed by culture (embracing about two-thirds of the whole number) and others giving pretty clear evidence of diphtheria, either in the fact that they had been contracted from other undoubted cases, or where the membrane had invaded other parts besides the tonsils, such as the palate, pharynx, nose, or larynx. It is possible that among the latter we have admitted some streptococcus cases, but the number of such is certainly very small.

There are left then of these cases, 3,384 for analysis. These have been observed in the practice of 613 physicians from 114 cities and towns, in fifteen different States, the District of Columbia and the Dominion of Canada.

In the general opinion of the reporters the type of diphtheria during the past year has not differed materially from that seen in previous years, so that it has been average diphtheria which has been treated. If there is any difference in the severity of the cases included in these reports from those of average diphtheria, it is that they embrace a rather larger proportion of very bad cases than are usually brought together in statistics. The cases according to the extent of the membrane, are grouped as follows: In 593 the tonsils alone were involved. In 1,397 the tonsils and pharynx, the tonsils and nose, the pharynx and nose, or all three were affected. In 1,256 cases the larynx was affected either alone or with the tonsils, pharynx and nose, one or all. In many instances the statement is made by the reporters that the serum was resorted to only when the condition of the patient had become alarmingly worse under ordinary methods of treatment. This is shown by the unusually large number of cases in which injections were made late in the disease. Again, many physicians being as yet in some dread of the unfavorable effects of the serum have hesitated to use it in mild cases and have given it only in those which from the onset gave evidence of being of a severe type. The expense of the serum has unquestionably deterred many from employing it in mild cases. These facts, it is believed, will more than outweigh the bias of any antitoxin enthusiasts by including many mild cases which would have recovered under any treatment. It will, however, be remembered that tonsillar cases not confirmed by culture have not been included.

Only two reports embracing a series of over 100 cases have been received, most of the observers having sent in from five to twenty cases, although there are many reports of single cases, particularly of single fatal ones.

In addition to this material which has come in response to the circular, there have been placed at the disposal of the Committee by the courtesy of Dr. H. M. Biggs, 942 cases treated in their homes in the tenements of New York. Of these, 856 were injected by the corps of inspectors of the New York Health Board, upon the request of the attending physician, and eighty-six others were treated by physicians receiving free antitoxin from the Health Board. In the first group the diagnosis of diphtheria was confirmed by culture in every case, and in all of the latter except twenty-six; in these the diagnosis rested upon extensive membranous deposits or laryngeal invasion. The cases of the New York Health Board were of a more than ordinarily severe type, 485, or more than 50 per cent., of these being reported as being in bad condition at the time of injection; to mild cases the inspectors were not often called. Further, an unusually large number of them (38 per cent.) were injected on or after the fourth day of the disease. In 182 of these cases only the tonsils were affected; in 466 the tonsils with the pharynx or nose, the pharynx and nose, or all three; in 294 the larynx was invaded either with or without disease of the tonsils, nose or pharynx.

Through the courtesy of Dr. Biggs the committee is able to include also a partial report upon 1,468 cases from Chicago, treated in their homes in that city by a corps of inspectors of the Health Department. It was the custom in Chicago to send an inspector to every tenement-house case reported, and to administer the serum unless it was refused by the parents. These cases were therefore treated much earlier and the results were correspondingly better than were obtained in New York, although the serum used was the same in both cities, viz., that of the New York Health Board.

THE RESULT AS INFLUENCED BY THE TIME OF INJECTION.

In Table I. are given the results obtained in these three different groups of cases, classified according to the day on which they received the first injection of serum antitoxin.

The grand total gives 5,794 cases with 713 deaths, or a mortality of 12.3 per cent., including every case returned; but the reports show that 218 cases were moribund at the time of injection or died within twenty-fours of the first injection. Should these be excluded there would remain 5,576 cases (in which the serum may be said to have had a chance), with a mortality of 8.8 per cent.

Of the 4,120 cases injected during the first three days there were 303 deaths—a mortality of 7.3 per cent., including every case returned. If from these we deduct the cases which were moribund at the time of injection, or which died within twenty-four hours, we have 4,013 cases, with a mortality of 4.8 per cent. Behring's original claim, that if cases were injected on the first or second day the mortality would not be 5 per cent., is more than substantiated by these figures. The good results obtained in third-day injections were a great surprise to your Committee. But after three days have passed the mortality rises rapidly, and does not differ materially from ordinary diphtheria statistics. Our figures emphasize the statement so often made, that relatively little benefit is seen from antitoxin after three days; however, it must be said that striking improvement has in some cases been seen even when the serum has been injected as late as the fifth or sixth day. The duration of the disease, therefore, is no contraindication to its use.

THE INFLUENCE OF BACTERIOLOGICAL DIAGNOSIS UPON THE STATISTICS.

This is shown in Table II.

In the cases in which the diagnosis was not confirmed by a bacteriological examination the mortality is thus 5 per cent. higher than in the bacteriological cases. This difference is to be explained by two facts: first, as already stated, that we have excluded from our reports all tonsillar cases (and hence most of the very mild ones) not confirmed by bacteriological examinations; and secondly, by the fact that this group of cases comprises those treated in the country where physicians have hesitated to use antitoxin unless the type of the disease was a grave one, and where also a large proportion of the injec-

TABLE I.—DAY OF INJECTION AND RESULT.

	INJECTED ON 1ST DAY.			INJECTED ON 2D DAY.			INJECTED ON 3D DAY.			INJECTED ON 4TH DAY.			INJECTED ON 5TH DAY.			DAY OF INJECTION UNKNOWN.			TOTALS.		
	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.
The Committee's Report . .	764	38	4.9	1065	89	8.3	620	79	12.7	336	77	22.9	390	152	38.9	215	15	7.0	3384	450	13.0
New York Health Board . .	126	11	8.7	215	26	12.0	228	37	16.6	153	32	20.9	203	59	29.0	17	4	23.5	942	169	17.8
Chicago Health Board . . .	106	0	0	336	5	1.5	660	18	2.7	269	38	14.1	97	33	34.0	0	0	0	1468	94	6.4
Totals	996	49	4.9	1616	120	7.4	1508	134	8.8	758	147	20.7	690	244	35.3	232	19	8.2	5794	713	12.3

tions were made later than in the cities. However, should we leave out the moribund cases, the mortality is but 9.6 per cent., which differs but slightly from the cases confirmed by bacteriological diagnosis.

In our subsequent statistics we shall consider together all the

TABLE II.—DIAGNOSIS CONFIRMED BY BACTERIOLOGICAL EXAMINATION.

Committee's Reports,	2,453 cases;	302 deaths;	mortality,	12.3 per cent.
N. Y. Board of Health,	916 "	160 "	"	16.9 " "
Chicago " "	1,468 "	94 "	"	6.4 " "
Totals, ...	4,837 "	556 "	"	11.4 " "
(Excluding 145 cases which were moribund or which died in twenty-four hours), ...			"	8.7 " "

DIAGNOSIS FROM CLINICAL EVIDENCE ONLY.

Committee's Reports,	931 cases;	148 deaths;	mortality,	15.7 per cent.
N. Y. Board of Health,	26 "	9 "	"	34.6 " "
Totals, ...	957 "	157 "	"	16.3 " "
(Excluding 72 cases either moribund or dying in twenty-four hours), ...			"	9.6 " "

cases bacteriologically confirmed and otherwise, as the statistics are not materially altered by this grouping.

THE RESULTS AS MODIFIED BY THE AGE OF THE PATIENTS.

Unfortunately the ages have not been furnished in the report of the Chicago cases, and we have therefore only the cases reported to the Committee and those from the New York Board of Health for analysis. In Table III. are shown the mortality of the different ages grouped separately.

The highest mortality is seen as in all reports to be in the cases under two years, but including all those returned, even those that were moribund when injected, the death rate was but 23.3 per cent. (21.7 per cent. of the Committee's cases), while if we exclude cases moribund when injected or dying within the first twenty-four hours, it falls to 19.2 per cent.

After the second year there is noticed a steady decline in mortality up to adult life. In many of the reports previously published the statement has been made that no striking improvement in results was observed in adult cases treated by the serum. Our figures strongly contradict this opinion. Of 359 cases over fifteen years old, which were returned, there were but thirteen deaths. That the reader may judge for himself how far antitoxin is to be held

TABLE III.—AGE AND RESULT OF TREATMENT.

	0 TO 2 YEARS.			2 TO 5 YEARS.			5 TO 10 YEARS.			10 TO 15 YEARS.			15 TO 20 YEARS.			20 YEARS AND OVER.		
	Cases.	Deaths.	Mortality Per cent	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.	Cases.	Deaths.	Mortality Per cent.
Committee's Report . .	631	137	21.7	1276	175	13.7	883	108	12.2	276	19	6.8	112	4	3.6	214	9	4.2
New York Health Board.	236	65	27.5	466	83	17.8	178	21	11.2	29	0	0	11	0	0	22	0	0
Totals	867	202	23 3	1742	258	14.7	1061	129	12.1	305	19	6.2	123	4	3.2	236	9	3.8
Moribund	43			59			59			9			0			4		
Mortality Excluding Moribund Cases .			19.2			13.3			8.7			3.3			3.2			2.1

responsible for the result, a brief summary of these thirteen cases is appended.

Case I.—Fifteen years old; injected on the fourth day; membrane covering tonsils and pharynx; profoundly septic, sinking rapidly when injected; died in two hours. "My only death in seventeen cases" (Jones, Gloucester, Mass.).

Case II.—Forty-four years old; injected on the fourth day; membrane on the tonsils and pharynx; in bad condition; died three hours after injection. The tonsils had been previously incised, the early diagnosis having been quinsy.

Case III.—Thirty-one years old; injected on the sixth day; membrane on the tonsils, nose, pharynx and larynx; intubation; sepsis; in bad condition; lived eight hours after injection.

Case IV.—Thirty-five years old; injected on the fifth day; membrane on the pharynx and nose (?); in bad condition; septic; died in twelve hours.

Case V.—Sixty years old; in bad condition; had serious mitral regurgitation; injected on the fourth day; membrane covering tonsils, pharynx and larynx; died from heart failure on following day.

Case VI.—Sixty years old; "kidney trouble for years;" injected on the third day; very extensive membrane, covering tonsils, pharynx and nose; profound sepsis; in bad condition; died suddenly on the day after injection.

Case VII.—Seventeen years old; in bad condition; convalescing from measles; enormous adenopathy; profound sepsis; exceedingly high temperature; membrane covering tonsils and nose; injected at the end of forty-eight hours; three injections, temporary improvement after each one; duration of life not given.

Case VIII.—Fifteen years old; in bad condition; injected on the ninth day; membrane covering tonsils, nose, pharynx and larynx: no operation; enormous infiltration of the tissues of the neck; nephritis; sepsis; lived four days and died of sepsis.

Case IX.—Twenty years old; injected on the third day; membrane upon the tonsils, nose, pharynx and larynx; "a stubborn patient who got up before he was allowed, and died suddenly after it."

Case X.—Twenty-five years old; injected on the fifth day; membrane covering both tonsils, entire pharynx, and completely occluding nose; nephritis and sepsis; throat cleared off entirely; died suddenly on the fourteenth day from cardiac paralysis.

Case XI.—Nineteen years old; injected on the fifth day; membrane upon the tonsils and pharynx; profound sepsis; duration of life unknown.

Case XII.—Twenty-two years old; injected on the fourth day; membrane on the tonsils and gums; sepsis; died on the sixth day.

Case XIII.—The well-known Brooklyn case, reported in 1895. Girl, sixteen years old, who died suddenly ten minutes after injection.

Such are the adult cases which antitoxin failed to cure. Four of them were moribund at the time of injection, no one of them living over twelve hours. Two, both sixty years old, were already crippled by previous organic disease, one of the heart and the other of the kidreys. In the measles case there was undoubted evidence of streptococcus septicæmia. Only two of the cases were injected as early as the third day; three of them on the fifth day, and one on the ninth day. Omitting the four moribund cases, the mortality of 355 adult cases treated with the serum is 2.5 per cent.

PARALYSIS.

Reliable data upon this point and those hereafter to be mentioned are to be had only from the 3,384 reports returned to the Committee. Of these paralytic sequelæ appeared in 328 cases, 9.7 per cent. Of the 2,934 cases which recovered, paralysis was present in 276, or 9.4 per cent. Of the 450 cases which died, paralysis was noted in fifty-two, or 11.4 per cent.

The variety of the paralysis and the date of injection is shown in table IV.

Observations of some of the individual cases are interesting, particularly those of cardiac paralysis. It is twice stated that the child had gotten up and walked out of the house, where it was found dead. Twice death occurred after sitting up suddenly; once, on jumping from one bed into another. One patient of twenty years got up contrary to orders and died soon afterward. Another patient was apparently well until he indulged in a large quantity of cake and candy, soon after which cardiac symptoms developed, and he died shortly. One case was that of a woman sixty years old, who had serious organic cardiac disease.

It is difficult from these statistics to state what protective power the serum may have over the nerve cells and fibers. Apparently this is not great unless the injections are made early in the disease, and even then in severe cases the amount of damage done to these tissues in twenty-four hours may be very great, even irreparable. Time is not the only element in estimating the effect of the diphtheria toxines.

Great discrepancy exists in the statements made regarding the frequency of paralytic sequelæ after diphtheria. In a series of 1,000 cases reported by Lennox Browne, paralytic sequelæ were present in 14 per cent. In 2,448 cases by Sanné, paralysis was noted in 11 per cent. In the series of cases here reported, the difference is slightly in favor of the antitoxin treatment, but paralysis is certainly frequent enough to show how extremely susceptible the nervous elements are to the diphtheria toxines. One thing is quite striking from a study of these cases, and that is the proportion that have died from late cardiac paralysis. That very many of them would undoubtedly have succumbed earlier in the disease from suffocation (laryngeal cases) or diphtheritic toxæmia, had the serum not been employed, is beyond question. Although the serum is able to rescue even many such desperate cases, it cannot overcome the effects of the toxines upon the cells, which have occurred before it was injected.

TABLE IV.—VARIETY OF PARALYSIS AND THE DAY OF INJECTION.

	CASES.	DAY OF INJECTION.					
RECOVERY CASES.		1st Day.	2d Day.	3d Day.	4th Day.	5th Day.	Unknown.
Paralysis mentioned (variety not specified),	132	8	32	32	19	16	23
Throat only (aphonia, nasal voice or regurgitation),	114	16	21	25	11	16	24
Extremities,	14	3	5	2	—	3	1
Ocular,	11	—	4	3	1	2	1
General (multiple neuritis),	4	—	1	2	1	—	—
Sterno-mastoid,	1	—	1	—	—	—	—
FATAL CASES.							
Paralysis mentioned (variety not specified),	9	—	3	2	1	2	1
*Cardiac, late after throat clear (in 4 of them throat also),	32	1	2	8	9	8	4
Throat only,	6	—	2	—	—	—	4
General late,	4	—	1	—	1	2	—
Muscles of respiration,	1	—	1	—	—	—	—
Totals,	328	28	73	76	43	49	59

*Cases of heart failure occurring at the height of the disease have not been included here, although they are mentioned among the cases of cardiac paralysis in the table of fatal cases.

SEPSIS.

Sepsis is stated to have been present in 362 of the 3,384 cases, or 10.7 per cent. It was present in 145, or 33 per cent., of the fatal cases. Some explanation is necessary for a correct appreciation of these figures. The majority of the reporters, it is plain from their remarks, have not distinguished between diphtheritic toxæmia and streptococcus sepsis. The former is certainly meant in the great majority of the cases. There is a very small proportion in which there is evidence of streptococcus sepsis. The six cases complicating measles, and the five complicating scarlet fever, however, should possibly be included among this list.

NEPHRITIS.

The statements on this point are quite unsatisfactory. The reports state that nephritis was present 350 times, or in 10 per cent. of the cases. On the one hand it must be stated that the diagnosis of nephritis rests in many cases simply upon the presence of albumin in the urine; but, on the other hand, it is true that in a large number of the cases, more than half, no examination of the urine is recorded as having been made, so that it is impossible to state, with anything like approximate accuracy, the frequency of nephritis in these cases. Of the 450 fatal cases, the presence of nephritis is mentioned without qualification or explanation in thirty-nine cases; these being usually put down also as septic, dying in the acute stage of the disease. There are fifteen fatal cases, however, in which the renal disease was stated as the cause of death. In no less than nine the nephritis occurred late in the disease, usually during the second or third week. In these fifteen cases the evidence of severe nephritis was conclusive, such symptoms being present as dropsy, suppression of urine, with coma or convulsions.

BRONCHO-PNEUMONIA.

Broncho-pneumonia is stated to have been present in 193 of the 3,384 cases, or 5.9 per cent., a remarkably small proportion when compared with hospital statistics. Among the patients that recovered, broncho-pneumonia was noted 114 times, or in 3.8 per cent.; among the fatal cases seventy-nine times, or in 17.5 per cent., but in only about one-half of these was the pneumonia the cause of death. Of these thirty-seven were laryngeal cases operated upon late, ten were septic cases, and the pulmonary disease was coincident with the height of the diphtheritic process. In seven pneumonia was independent of both the above conditions, occurring late in the disease in all but two.

LARYNGEAL CASES.

Of the 3,384 cases reported to the Committee, the larynx is stated to have been involved in 1,256 cases, or 37.5 per cent. This proportion is somewhat higher than is usual, and is partly explained by the fact that several physicians have sent in the reports only of their laryngeal cases. These laryngeal cases occurred in the practice of 379 physicians.

In 691, or a little more than one-half the number, no operation was done, and in this group there were 128 deaths. In forty-eight of them laryngeal obstruction was responsible for the fatal issue, operation being refused by the parents, or no reason for its being neglected having been given. In the eighty remaining fatal cases the patients died of other complications, and not from the laryngeal disease.

In the 563 cases, therefore, or 16.9 per cent. of the whole number, there was clinical evidence that the larynx was involved, and yet recovery took place without operation. In many of these cases the symptoms of stenosis were severe, and yet disappeared after injection without intubation. No one feature of the cases of diphtheria treated by antitoxin has excited more surprise among the physicians who have reported them than the prompt arrest, by the timely administration of the serum, of membrane which was rapidly spreading downwards below the larynx. Such expressions abound in the reports as "wonderful," "marvelous," "prepared to do intubation, but at my next visit the patient was so much better it was unnecessary"; "in all my experience with diphtheria have never seen anything like it before"; "no unprejudiced mind could see such effects and not be convinced of the value of the serum," etc., etc.

In establishing the value of the serum, nothing has been so convincing as the ability of antitoxin, properly administered, to check the rapid spreading of membrane downward in the respiratory tract, as is attested by the observations of more than 350 physicians who have sent in reports.

Turning now to the operative cases, we find the same remarkable effects of the antitoxin noticeable. Operations were done in 565 cases, or in 16.7 per cent. of the entire number reported. Intubation was performed 533 times, with 138 deaths, or a mortality of 25.9 per cent. In the above are included nine cases in which a secondary tracheotomy was done, with seven deaths. In thirty-two tracheotomy only was done, with twelve deaths, a mortality of 37.4 per cent. Of the 565 operative cases, sixty-six were either moribund at the time of operation, or died within twenty-four hours after injection. Should these be deducted, there remain 499 cases operated upon by intubation or tracheotomy, with eighty-four deaths, a mortality of 16.9 per cent.

Of the 2,819 cases not operated upon, there were 312 deaths, a mortality of 11.3 per cent. Deducting the moribund cases, or those dying within twenty-four hours after injection, the total mortality of all non-operative cases was 9.12 per cent.

Let us compare the results of intubation in cases in which the serum was used, with those obtained with this operation before the serum was introduced. Of 5,546 intubation cases in the practice of 242 physicians, collected by McNaughton and Maddren (1892), the mortality was 69.5 per cent. Since that time statistics have improved materially by the general use (in and about New York, at least) of calomel fumigations. With this addition, the best results published (those of Brown) showed in 279 cases a mortality of 51.6 per cent.

Let us put beside the cases of McNaughton and Maddren the 533 intubations with antitoxin, with 25.9 per cent. mortality. With Brown's personal cases let us compare those of the fourteen observers who have reported to the Committee ten or more intubation operations in cases injected with serum. These comprise 280 cases, with sixty-five deaths, a mortality of 23.2 per cent. In both comparisons the mortality without the serum is more than twice as great as in the cases in which serum was used.

The reports of some individual observers concerning intubation with the serum are interesting:

Neff, New York: twenty-seven operations, with twenty-seven recoveries.

Rosenthal, Philadelphia: eighteen operations, with sixteen recoveries.

Booker, Baltimore: seventeen operations, with seventeen recoveries, including one aged ten months and one seven and a half months.

Seward, New York: eight operations, with eight recoveries.

McNaughton, Brooklyn: "In my last seventy-two operations without serum, mortality 66.6 per cent.; in my first seventy-two operations with serum, mortality 33.3 per cent."

O'Dwyer, New York: "In my last 100 intubations, first seventy, without serum, mortality 73 per cent.; last thirty, with serum, mortality 33.3 per cent."

But even these figures do not adequately express the benefit of antitoxin in laryngeal cases. Witness the fact that over one-half the laryngeal cases did not require operation at all. Formerly 10 per cent. of recoveries was the record for laryngeal cases not operated upon. Surely, if it does nothing else the serum saves at least double the number of cases of laryngeal diphtheria that has been saved by any other method of treatment.

The great preponderance of intubation over tracheotomy operations shows how much more highly the profession in this country esteems the former operation.

A STUDY OF THE FATAL CASES.

Of the 450 fatal cases in the Committee's Report, 229, or one-half, received their first injection of the serum on or after the fourth day of the disease, and 152, or over one-third of these, on or after the fifth day.

There were fifty-eight cases in which it was stated that the child was moribund at the time of injection, the serum being administered without the slightest expectation of benefit, but at the earnest solicitation of the parents.

There remain 350 cases in which the cause of death could be pretty accurately determined by the reports. These died from the following causes, the most important cause being placed first :

Sepsis (*including diphtheritic toxæmia*) was the cause of death in 105 cases ; of which sixteen had nephritis, four were intubated or tracheotomized, two were laryngeal cases not operated upon, four had paralysis, one had pneumonia, and in one the fatal sepsis was attributed to a traumatic condition of the left knee.

Cardiac paralysis was the cause of death in fifty-three cases. Under this head are included cases of sudden heart failure occurring at the height of the disease (twenty-one in number) as well as those more commonly designated as heart paralysis, where death occurred suddenly after the throat cleared off. Of the latter there were thirty-two examples; four of these cases had throat paralysis, nineteen were septic, eight had nephritis, five were intubated and one tracheotomized.

Broncho-pneumonia was put down as the cause of death in fifty-four cases. In thirty-seven of these it followed laryngeal diphtheria; of these twenty-two were intubated and four tracheotomized ; two had nephritis ; nine were septic. Broncho-pneumonia and sepsis was the cause of death in ten cases, of which three had nephritis and one general paralysis. Broncho-pneumonia caused death in seven cases, apart from sepsis or laryngeal diphtheria ; of these only one had nephritis; one died from heart failure, and in five pneumonia came on late in the disease.

Laryngeal diphtheria without operation caused death in forty-eight cases. In some of these the operation was refused by the parents, in others it was neglected by the physician, the patients dying of asphyxia ; three of these had nephritis, four were septic, two had pneumonia, and one had sepsis and nephritis.

Diphtheritic tracheitis or bronchitis caused death in eleven cases; all of these were intubated, and in two there was evidence of the existence of membrane in the bronchi before operation. There were thirty-three other cases in which death followed laryngeal diphtheria without the supervention of pneumonia. It is highly probable that in some of these death was due to membranous tracheitis or bronchitis. All of them were operated upon ; ten were septic, two had paralysis, and one had nephritis.

Sudden obstruction of the intubation tube was the cause of death in three other laryngeal cases.

The tube was coughed up in three cases, fatal asphyxia occurring before the physician could be summoned.

Died on the table during tracheotomy, one case.

Nephritis was the cause of death in fifteen cases; seven of these were septic, and three had been intubated.

General paralysis was the cause of death in five cases; in all probably the pneumogastric was involved.

Paralysis of the respiratory muscles produced death in one case, one of laryngeal diphtheria, which was intubated, and was complicated by broncho-pneumonia.

Measles associated with diphtheria produced death in six cases; five of these were laryngeal and were intubated; in two there was pneumonia, and in two sepsis. Diphtheria developed during the height of the measles, or immediately followed it.

Scarlet fever with diphtheria was the cause of death in six cases; in three of these there was broncho-pneumonia, nephritis and sepsis; in two scarlet fever preceded diphtheria, and in one of these there was sepsis with gangrene of the tonsils. In the sixth case the patient died of scarlet fever, which developed during convalescence from the diphtheria.

Gangrene of the cervical glands or cellular tissue of the neck was the cause of death in two cases associated with profound general sepsis.

Endocarditis caused death in one case, nineteen days after the diphtheria.

Diphtheritic inflammation of the tracheal wound with sepsis caused death in one case.

General tuberculosis, five weeks after diphtheria, was assigned as the cause of death in one case.

Exhaustion was the cause of death in three cases, one a protracted case; another complicated by pneumonia and sepsis; one by nephritis.

Convulsions was the cause of death in three cases apart from disease of the kidneys. In one, the well-known Brooklyn case, the girl died ten minutes after the injection, in another twenty-four hours after injection, in the third the particulars were not given.

Meningitis was assigned as the cause of death in one case.

THE KIND OF ANTITOXIN USED.

They are given in the order of frequency with which they have been used. First, the serum prepared by the New York Board of Health; second, Behring's; third, Gibier's; fourth, Mulford's; fifth, Aronson's; sixth, Roux's. In addition a large number of cases are reported as having been treated by the serum prepared by the Health Boards of different cities—Brooklyn, Newark, Rochester, Pittsburgh, etc. The largest number of cases have been treated by the serum prepared by the New York Health Board, a very large number by Behring's serum, all others being relatively in small numbers.

Dosage and number of injections. In the great majority of cases but one injection is reported. In very severe ones two and three have been given. The largest amount is in a case by Weimer (Chicago), who gave eighteen injections of Behring's serum to a laryngeal case in a child thirteen years old. Another instance of ten injections is reported with no unfavorable symptoms.

As a rule the dosage has been smaller in antitoxin units than is now considered advisable, particularly in many of the laryngeal cases and others injected later than the second day.

CASES INJECTED REASONABLY EARLY (DURING THE FIRST THREE DAYS) IN WHICH ANTITOXIN IS SAID TO HAVE PRODUCED NO EFFECT, THE DISEASE ENDING FATALLY.

These cases are twenty in number. Brief reports are introduced that the reader may judge to what degree they may be regarded as a test of the serum treatment. In our statistical tables all of them have been included among the fatal cases.

In Cases I. and II. the cultures were reported negative. Case I., by Gallagher, New York: Child, eighteen months old; septic; although no eruption was present, the reporter was "inclined on reflection to regard this case as one of scarlatinal sore throat."

Case II., by Potter, Buffalo: Male, fourteen months old; two cultures made, but no Löffler bacilli found; membrane in the nose and pharynx. Injected on the third day, one dose of Behring's serum No. 1. No improvement; death from sepsis. "Probably pseudo-diphtheria" (I. H. P.).

In Cases III. to IX. no cultures were made.

Case III., by Tefft, New Rochelle: Seven years old; injected after eighteen hours' illness; two injections of Behring's No. 2 serum, membrane on the tonsils, pharynx and nose; no effect observed from injections; patient dying on the third day.

Case IV., by Tefft: Male, four years old; membrane on the tonsils and pharynx; injected after thirty-six hours' illness with Behring's No. 2; died on the third day; no noticeable effect from the injection.

Case V., by Tefft: Six years old; membrane on the tonsils, nose and pharynx; septic; injected after thirty-six hours' illness; three injections of Behring's No. 2. "Saw no effect from the injections, the disease going steadily on to a fatal termination."

Case VI., by Cameron, Montreal: Two and a half years old; fifty hours ill; membrane on the tonsils, nose and pharynx; septic; no improvement noticed, and child died twenty hours after injection.

Case VII., by Baker, Newtonville, Mass.: Three years old; laryngeal diphtheria; injected on the third day 10 c.c. Roux's serum; cyanosis; intubation; temperature 103° F., and continued high until death in eighteen hours after operation; injections had no effect.

Case VIII., by Anderson, New York: Three years old; injected after three hours' illness; membrane on the tonsils, nose and pharynx; one injection New York Health Board antitoxin. "A case of malignant diphtheria, full duration twenty-four hours."

Case IX., by McLain, Washington: Four years old: twelve hours sick; membrane on the pharynx and larynx; two injections; no operation; first injection early in the morning, the other early in the afternoon: died the same day; no change in the condition; antitoxin had no apparent effect.

In Cases X. to XIII. diphtheria complicated measles, all reported by W. T. Alexander, New York. Disease confined to the larynx in all; in three the stenosis developed during measles, and in one while the patient was convalescing from measles: diagnosis confirmed by culture in every case, and in all intubation performed. Antitoxin seemed to have no effect, the cases going on to a fatal termination; all received their injections within twenty-four hours after the laryngeal symptoms appeared.

In three cases—XIV. to XVI.—the type of the disease was malignant from the outset.

Case XIV., by Lloyd, Philadelphia: Fifteen months old; injected after thirty-six hours' illness; diagnosis confirmed by culture; membrane covered the tonsils, pharynx, nose and larynx; intubation;

sepsis; death on the fifth day. Although antitoxin was used as promptly as possible no perceptible effect noticed. One injection, Behring's No. 3, was given.

Case XV., by Wert, Mount Vernon, N. Y.: Eighteen months old: injected on the third day; diagnosis confirmed by culture; membrane on the tonsils and pharynx. "Very intense type of the disease." Antitoxin could not be procured before the third day; Gibier's serum used. "Died suddenly in apparent convulsions about ten hours after injection; urine not examined; very little passed."

Case XVI., by Ingraham: Six years old; membrane covered the tonsils, pharynx and larynx; diagnosis confirmed by culture; pneumonia present: condition very bad; injected after two and a half days' illness; three injections of Behring's serum; no benefit noticed.

Case XVII., by Johnson, Buffalo: Three years old; twelve hours ill; case septic from the start; membrane on the tonsils, pharynx and larynx; diagnosis confirmed by culture. "Antitoxin apparently had very little effect."

Case XVIII., by Baker, Newtonville, Mass.: Two and a half years old; twenty hours ill; disease confined to larynx; diagnosis confirmed by culture: one injection of Gibier's serum; intubation. "Was doing well a few minutes before death, when child got up in its crib, changed color and died almost immediately." Death attributed to "sudden heart failure; found no obstruction of the tube."

Case XIX., by Story, Washington: Five years old; in fair condition; thirty-six hours ill; diagnosis confirmed by culture; membrane on the tonsils, pharynx and larynx; one injection of United States Marine Hospital antitoxin; injection produced no effect.

CASES IN WHICH UNFAVORABLE SYMPTOMS WERE, MIGHT HAVE BEEN, OR WERE BELIEVED TO HAVE BEEN, DUE TO ANTITOXIN INJECTIONS.

Only three cases reported to the Committee could by any possibility be placed in this category. All of the details furnished by the reporters are reproduced:

Case I., by Kortright, Brooklyn: Sudden death in convulsions ten minutes after injection. This case is the already well-known Valentine case, occuring in Brooklyn in the spring of 1895. The principal points were as follows: A girl sixteen years old; in good condition; tonsillar diphtheria; diagnosis confirmed by culture: injected on the first day with 10 c.c. Behring's serum; died in convulsions ten minutes later.

Case II., by Kerley, New York: Fairly healthy boy, two and one-half years old; membrane on tonsils, pharynx and in nose. Diagnosis confirmed by culture; injected on the morning of the fourth day with 10 c.c. (1,000 units), New York Health Board serum; temperature at time of injection 100.4° F.; no sepsis, and child apparently not very sick; urine free from albumin. Distinctly worse after injection; in ten hours temperature rose to 103° F.; urine albuminous; throat cleared off rapidly, but marked prostration and great anæmia, with irregular fluctuating temperature continued and death from exhaustion with heart failure four days after the use of the serum.

Case III., by Eynon, New York: Male, three and one half years old; diagnosis confirmed by culture; two days ill; membrane on tonsils and in nose; two injections New York Health Board serum. "A rapid nephritis developed after the second injection, causing coma, convulsions and death twenty hours after the second injection." In response to an inquiry for further particulars the following was received: "The case seemed a mild one, but the injection was given one afternoon and repeated the following afternoon, about 1,500 units in all. The urine up to that time had not been examined. About fourteen or sixteen hours after the second injection unfavorable symptoms began to develop pointing to infection of the kidneys. The urine was found to be loaded with albumin. My impression at the time was that the antitoxin either produced, hastened or intensified nephritis, thereby causing the fatal termination."

In regard to the three fatal cases just cited, Case I. is wholly unexplained. In Case II., the query arises, did this sudden change hinge upon the injection of the serum, or was it one of those unexplained abrupt changes for the worse in a case apparently progressing favorably, so often observed in diphtheria? As regards Case III., it will be seen from the letter that the evidence is not at all conclusive. All details available are given, and the reader may draw his own conclusions.

CLINICAL COMMENTS.

The following are selected from hundreds which have been received, and may be taken fairly to represent the sentiments of the physicians who have sent in reports:

Dr. Douglas H. Stewart, New York, sends reports of four cases, all desperate ones, and all "presumably fatal under any other form of treatment." Very extensive membrane in all; larynx involved in three; in one neglected case in a child three years old, *injected upon the fifth day*, the membrane covered the tonsils, nose, pharynx and larynx. Broncho-pneumonia, nephritis and sepsis all present. Temperature 107° F. at the time of the first injection. Prostration so great that he dared not attempt intubation. Believes that this case would certainly have been fatal in a few hours without antitoxin. Perfect recovery.

In another case three years old, membrane first discovered in the left ear, next morning seen upon the tonsils, and spread in a few hours over the pharynx into the larynx and trachea. Intubation necessary in a few hours; had never seen membrane spread so rapidly as in this child. Urine albuminous; membrane subsequently expelled from larynx and trachea in large casts, with profuse bloody expectoration. Complete recovery on the ninth day. The physician describes this as "the very worst case of diphtheria that has ever come under my notice." Five thousand four hundred antitoxin units were given in four injections. He remarks: "My experiences in the past have been so very unfortunate that the advocates of antiseptics or therapeusis were a constant surprise to me. It has been my fate to have the most desperate cases unloaded upon my shoulders. I had been forced into the belief that the profession was absolutely powerless in the presence of true diphtheria; have lost case after case with tube in the larynx and calomel fumigations at work. Previous to antitoxin my only hope had become centered in nature and stimulants. In two years have not lost a single case, and surely I may be pardoned if I suffer from diphtheria-phobia in a sub-acute form, and use antitoxin sometimes unnecessarily."

Dr. L. L. Danforth, New York, states that during his twenty-two years of practice in New York he has seen many fatal cases of diphtheria, had used all kinds of remedies, mainly those of the homeopathic school, and while he had as much confidence in the latter as in anything else, he had seen so many deaths during the year past that he "hailed with delight the advent of antitoxin, and determined to use it." Reports five cases, all of a severe type. "The result in every case has been marvelous. I would not dare to treat a case now without antitoxin."

Dr. H. W. Berg, New York, reporting fourteen cases, says: "I have not yet ceased to be surprised at the recovery of some of these cases, which, in the light of my former experience with diphtheria treated without antitoxin, seemed to be irretrievably lost."

Dr. George McNaughton, Brooklyn, reports seventy-two laryngeal cases, with twenty-four deaths: sixty-seven of these were intubated, with twenty-one deaths. He states that he has kept no records of cases other than laryngeal ones, as these seemed the best test of the serum treatment. He believes that if the serum is used early, very many cases will not need operation for the relief of stenosis. "I would urge the use of antitoxin in all cases of croup in any patient who has an exudation upon the pharynx; would not wait for bacteriological confirmation of diagnosis, for in so doing valuable time is lost." Has noticed that the tube is coughed up more frequently in injected cases, and believed this due to the fact that the swelling of the tissues subsides at an earlier date.

Dr. D. C. Moriarta, Saratoga, reporting four cases, says that the first was a malignant one and "I only used the remedy because I am Health Officer and was urged to do so, as the type of the disease was that from which I have seen recovery but once in eleven years." Boy five years old, four days ill when injected; great prostration, rapid breathing, and he was "practically gone." Nares filled and tonsils and pharynx covered; severe nasal hemorrhage; cervical glands greatly swollen; heart's action very frequent and feeble; child unable to lie down. Behring's serum twenty c.c. injected; in six hours evidently more comfortable; in eighteen hours decidedly improved; in twenty-four hours sitting up and feeling much better; in forty-eight hours all urgent symptoms gone and membrane loosening. Subsequently had nephritis which lasted six weeks, and multiple neuritis which persisted for three months, but ultimately recovered perfectly. "I send this report because it converted me. No unbiased person familiar with diphtheria could see such results as this and not feel there must be good in it."

Dr. F. M. Crandall, New York, sends report of a child seven years old. Membrane on the tonsils and in larynx, with croup for forty hours when antitoxin was injected and intubation done. Progress of the disease had been rapid; semi-stupor and eyes half open; very feeble, rapid pulse; intense toxæmia; general cyanosis. Both cyanosis and dyspnœa persisted after intubation, showing clearly the presence of membrane below the tube. Case regarded as "absolutely hopeless." The first change was seen in the disappearance of toxæmia, with improvement in the pulse, clearness of the mind, etc.; later a change in the local condition; large masses of membrane were expelled from the larynx and trachea, necessitating frequent removals of the tube. Tube finally removed in a week with complete recovery.

Dr. Reynolds, Baltimore, mentions a case showing the danger of relying too implicitly upon the bacteriological diagnosis. Male, three years. Culture reported only staphylococcus and streptococcus, consequently injection delayed until the fifth day, when membrane covered tonsils, nose and pharynx. Child died two days later. A sister subsequently contracted the disease, received antitoxin on the third day and recovered. The reporter would not wholly rely upon the culture test for diagnosis.

SUMMARY.

(1) The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves as strongly in favor of the serum treatment, the great majority being enthusiastic in its advocacy.

(2) The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favorable reports must be excluded.

(3) The report includes the record of every case returned except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included.

(4) No new cases of sudden death immediately after injection have been returned.

(5) The number of cases injected reasonably early in which the serum appeared not to influence the progress of the disease was but nineteen, these being made up of nine cases of somewhat doubtful diagnosis ; four cases of diphtheria complicating measles, and three malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

(6) The number of cases in which the patients appeared to have been made worse by serum were three, and among these there is only one new case in which the result may fairly be attributed to the injection.

(7) The general mortality in the 5,794 cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

(8) The most striking improvement was seen in the cases injected during the first three days. Of 4,120 such cases the mortality was 7.3 per cent.; excluding cases moribund at the time of injection or dying within twenty-four hours, it was 4.8 per cent.

(9) The mortality of 1,448 cases injected on or after the fourth day was 27 per cent.

(10) The most convincing argument, and to the minds of the Committee an absolutely unanswerable one, in favor of serum therapy is found in the results obtained in the 1,256 laryngeal cases (membranous croup.) In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

(11) The proportion of cases of broncho-pneumonia—5.9 per cent.—is very small and in striking contrast to results published from hospital sources.

(12) As against the two or three instances in which the serum is believed to have acted unfavorably upon the heart might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

(13) There is very little, if any, evidence to show that nephritis was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

(14) The effect of the serum on the nervous system is less marked than upon any other part of the body; paralytic sequelæ being recorded in 9.7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.

THE ACTION OF THE SOCIETY UPON THE REPORT.

At the close of its presentation, the Society voted to accept the report of the Committee, and after a full discussion it was decided to embody its conclusions in the following resolutions:

(1) *Dosage.* For a child over two years old, the dosage of antitoxin should be in all laryngeal cases with stenosis, and in all other severe cases, 1,500 to 2,000 units for the first injection, to be repeated in from eighteen to twenty-four hours if there is no improvement; a third dose after a similar interval if necessary. For severe cases in children under two years, and for mild cases over that age, the initial dose should be 1,000 units, to be repeated as above if necessary; a second dose is not usually required. The dosage should always be estimated in antitoxin units and not of the amount of serum.

(2) *Quality of Antitoxin.* The most concentrated strength of an absolutely reliable preparation.

(3) *Time of Administration.* Antitoxin should be administered as early as possible on a clinical diagnosis, not waiting for a bacteriological culture. However late the first observation is made, an injection should be given unless the progress of the case is favorable and satisfactory.

The Committee was appointed to continue its work for another year, and was requested to issue another circular asking for the further co-operation of the profession, this circular to be sent out as soon as possible in order that physicians may record their cases as they occur through the coming year.

PEDIATRICS

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Original Articles.

CLINICAL OBSERVATIONS UPON THE USE OF ANTITOXIN IN DIPHTHERIA; AND A REPORT OF A PERSONAL INVESTIGATION OF THIS TREATMENT IN THE PRINCIPAL FEVER HOSPITALS OF EUROPE, DURING THE SUMMER OF 1895.*

By Joseph E. Winters, M.D.,
New York,
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SINCE Behring's treatment for diphtheria was proclaimed to the medical profession by Roux at the Buda Pesth Congress in 1894, sufficient time has elapsed to warrant our taking a careful analytical review as to what has transpired with reference to it. Behring's antitoxin was given to the world as a specific against the toxines of the diphtheria bacillus. It has no action on the bacillus; this is not destroyed by the antitoxin; it is not rendered less virulent; it is in no way influenced by the treatment. Behring has told us that his remedy has no influence on the poisons of other bacilli. Diphtheria in man scarcely ever occurs from a pure infection by the Lœffler bacillus. Almost invariably we find in addition to the specific diphtheria bacillus, streptococci, staphylococci, etc. The poisonous substances of the latter bacilli are in no way influenced by antitoxin. This fact limits very much the application of Behring's treatment to diphtheria in man. The toxine of Lœffler's microbe causes the cardiac paralysis, the albuminuria and the paralytic phenomena. They were to be prevented by the neutralizing effect of antitoxin. If antitoxin is an antidote to the toxine of the Lœffler microbe, cardiac depression, death from cardiac paralysis, albuminuria and post-diphtheritic paralysis should all be prevented by the action of this agent. It was to remedy these manifestations of the disease that Behring gave to the world his antitoxin.

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* Abstract by the author of a paper read before the New York Academy of Medicine, May 21, 1896, and a stenographic report of the discussion at the general meeting, held June 4, 1896.

Behring told us his treatment to be effective must be applied early in the disease. To get the maximum effect toxine and antitoxin must be applied at the same moment and at the same spot.

Armand Ruffer states that if you inject toxine on one side of the body, and antitoxin on the other side at the same time, 14 times as much is required to protect the animal ; if there is a delay of one hour, 100 times as much is required to protect the animal, and if there is a delay of 11 hours, 5,000 times as much is required to protect the animal. In diphtheria in man, we can never apply the antitoxin at the site of infection, nor at the moment of infection. A period necessarily intervenes from the time of infection until there are sufficient symptoms to call attention to the illness ; and as the result of this there is a great limitation to the application of Behring's remedy to diphtheria in man.

Uniform Results Must be Obtained.—Another consideration of prime importance is: if we are to attribute the reported decrease of mortality of diphtheria to the action of a specific, this decrease must be uniform and constant. There must be the same reduction in mortality in all parts of the world where the remedy is applied. For instance, a mortality of 8 per cent. in Paris and 28 per cent. in London does not mean that the low mortality in the former city is due to the treatment, but that it is due to a difference in the character of the epidemic, and that when Paris is visited by an epidemic of the same severity as the one that exists in London it will have the same mortality in spite of the treatment. Again, if there is at work but a single factor, viz., antitoxin, in the reduction of mortality, that reduction must be below the lowest mortality recorded in the natural history of the disease in any part of the world, and it must be steadily maintained below this rate in all parts of the world ; otherwise, the variations in mortality may be said to be due to the epidemic character of the disease.

We find recorded the following divergencies in the deaths from diphtheria, owing to the differences in the type of the disease:

In New York in 1884	1,090
" " 1887	2,167
In Boston in 1891	232
" " 1894	817

In Philadelphia in	1888	350
" "	1889	375
" "	1892	1,425

This rule of uniformity of results applies to reports by individual observers. If 100 physicians report 5,000 cases of diphtheria, treated with antitoxin, with a mortality of 5 per cent., and 10 physicians report 500 cases, treated with antitoxin, with a mortality of 50 per cent., the only logical conclusion is that there was a difference in the character of the cases in the two series, and that when the 100 physicians meet with a series of cases of the same type as those treated by the 10 physicians, they, too, will have a mortality of 50 per cent.

Percentage of Mortality is Misleading.—The most misleading part of the antitoxin literature is the constantly quoted percentage of mortality. For instance, the mortality from diphtheria in the city of Boston in 1895 was 14.48 per cent.; in 1893, 32.49 per cent., and yet there were 112 more deaths from diphtheria in the city of Boston in 1895 than there were in 1893. The percentage mortality from diphtheria in the Boston City Hospital in 1893 was 48.44 per cent., and in 1895, 13.21 per cent., and yet we find that there were 203 deaths from diphtheria in the Boston City Hospital in 1893, and 207 deaths in 1895.

Boston City Hospital:

Year.	Cases.	Deaths.	Per cent.
1893	419	203	48.44
1894	598	266	44.48
1895 (antitoxin)	1,566	207	13.21

From the foregoing it is readily seen that the percentage mortality is not only misleading, but is absolutely worthless unless accompanied by the actual number of cases reported, and the actual number of deaths; and the report must also include a series of years in order to enable the reader to compare present results with the results in previous years when there was a mild type of the disease. Reports on the antitoxin treatment have ingeniously compared the years of highest mortality instead of including all years.

Analysis of Results According to the Day of the Disease on which Treatment was Begun.—At the beginning of the antitoxin treatment Behring told us that all cases treated on the first day of the disease could be saved; of those coming under treatment on the second day, nearly all, and of those brought under treatment on the third day, the larger part of them. Behring's words were: "We have it in our hands to reduce the mortality from diphtheria to one-tenth of its former rate." Let us see how this promise of Behring's has been verified.

At the Willard Parker Hospital during the first nine months of 1895, the results were as follows:

	Cases.	Mortality.
First day..............	108	10.09
Second day............	130	25.19
Third day.............	116	34.19

A few cases may be cited showing actual results when treatment is begun in the earlier part of the disease:

CASE 1. Sixteen years old; admitted to scarlet fever ward February 1, 1896; recovered from scarlet fever and was ready for discharge. March 19th, at 11.30 a. m., she complained of sore throat. The diagnosis of diphtheria having been made by bacteriological examination, she was injected with 2,000 units of antitoxin—just 40 hours after the disease began. In spite of antitoxin, croupy symptoms, which manifested themselves early, increased, and intubation was done at 10 a. m.—46½ hours after the beginning of her illness. On the evening of the same day, intubation not affording sufficient relief from the stenosis, tracheotomy was performed. Child died at 9.45 p. m.

In this case we have an instance of a child developing diphtheria in the hospital, being put upon serum treatment as soon as the diagnosis was confirmed. Notwithstanding this, the local process extended, even intubation not affording sufficient relief.

CASE 2. Aged 2½ years, admitted April 22, ill half a day. Throat clear, tonsils red and somewhat swollen, croup, some retraction, no cyanosis. Under the head of clinical notes we find: "Child rather croupy on admission." Antitoxin 2,000 units on admission. Patient admitted 22d of April about mid-day. April 23, 8.55 a. m., intubation became necessary; 2,000 more units antitoxin; temperature on admission, 100.8. April 23, temperature, 103.2; April 27, temperature, 99; April 28, temperature, 105; April 30, 101.6; afternoon of same day, 105.2. May 10, baby died at 2.25 a. m.

This is an extraordinary record. Child had been ill half a day on admission. Clinical notes state, "Child rather croupy on admission." About the only evidence of disease then was, as stated above, in spite of antitoxin 2,000 units, croup increased during the night, intubation became necessary the following day about twenty-one hours after admission. Next, observe the common temperature range which occurs when the patient shows unusual susceptibility to antitoxin.

CASE 3. Aged 2 years, admitted October 22, one day sick. Marked injection and swelling, dirty white membrane on left tonsil. Croup, prognosis doubtful. Antitoxin 2,000 units on admission. Admitted 9.30 a. m., intubation 4.15 p. m. October 23, antitoxin 2,000 units; 9.45 a. m., tube coughed up; 10.05 a. m., intubated, temperature, 2 p. m., 104.6. Hypodermics of brandy and nitroglycerine, hot bath, etc. October 24, antitoxin 1,200 units at 11.45 a. m.; temperature 104, sponging, etc. October 27, temperature 105, sponge baths nearly every hour. October 28, rash. October 29, tube removed. November 1, temperature went to 105. Sponging almost hourly. November 3, temperature, 105.8; sponge baths nearly every hour. November 5, 102 to 105. November 6, temperature, 108.8; sponge baths constantly kept up. November 7, temperature, 101.2 to 106.2; sponge baths almost constantly. November 8, temperature, 102 to 106. November 9, patient died at 6.40 p. m.

Here we have a baby 2 years old, sick one day when admitted to the hospital. October 22, 9.30 a. m., given antitoxin immediately (in all 5,200 units), and the result is shown by the clinical history. If antitoxin has any possible effect in neutralizing the poison of diphtheria, in relieving or preventing stenosis or in any way allaying laryngeal symptoms, only a very small part of the clinical history here recorded would have manifested itself. There are several histories which show undoubted instances of the bad effects of antitoxin on nervous centers.

CASE 4. Child, aged 4 months, admitted November 6; illness began November 3. Small patch of membrane on right tonsil; Klebs-Loeffler bacilli, no complication. Antitoxin 1,000 units on admission. November 9, slept at intervals quietly, but was very restless when awake. November 10, extremely restless most of the night. Temperature, 104. Sponge bath. November 12, pulse very weak. November 20 rash appeared. November 6, antitoxin 2,000 units 5.30 a. m., intubated at 1 p. m. Very restless during the day; 8.15 p. m., temperature, 106. Child failed to respond to stimulants. Temperature became more and more elevated, in spite of sponge bath. December 7, died at 12.30 a. m.

According to the record, this child had almost no illness on admission. It became very restless after the first injection of 1,000 units of antitoxin. Restlessness reappeared in exaggerated form after injection of antitoxin of 2,000 units, along with high temperature and rapid respiration until death.

Case 5. Child aged 7 months, admitted February 4, three days sick. Nothing in throat. Slight laryngeal symptoms. Clinical note states: "Slight croup, otherwise good condition." February 5, antitoxin 2,000 units. February 6, antitoxin 2,000 units; 4 a. m., temperature, 104.2. February 11, temperature suddenly rose and erythema appeared in patches over the body. Temperature in the evening reached 105.4. February 12, rash more marked since midnight. Marked opisthotonos and stiff neck. February 12, temperature 106 all night. February 14, glands and right side of neck swollen, temperature 104 to 106, until March 18; patient had convulsions during the night. March 19, child died 9 p. m.

Case 6. Child aged 1 year, admitted October 13, three days sick, marked swelling and injection, no membrane, croup; intubated on admission. October 13, antitoxin 2,000 units. October 14, antitoxin 2,000 units. October 14, tube coughed up at 4.10 a. m., had to be reintubated at 8.30 a. m. October 15, tube coughed up at 10.30 a. m.; reintubated 12.30 p. m. October 16, tube coughed up at 7.10 a. m. October 19, temperature suddenly rose to 104; temperature remained high but somewhat fluctuating, until 21st, when it reached 105.4, and the baby had slight convulsions. In the afternoon respiration became very superficial, patient failed to respond to stimulants. October 21, died at 5.25 p. m.

Case 7. Child aged 14 months, admitted February 20, five days sick. Rather thick patch on right tonsil, cry and breathing croupy, no retraction. "Patient admitted in croupy condition, not bad enough to require intubation, prognosis good." Antitoxin 2,000 units. February 21, antitoxin 2,000 units at 10.15 a. m. Intubated at 2.10 p. m.; 5.45 p. m. tube removed. February 22, 8.30 a. m., temperature, 104.5; 12 m., 105. Pulse, 184; respirations, 84; 11 p. m., temperature, 106.2; opisthotonos, plunge bath for ten minutes. February 23, temperature down, but still opisthotonos and great prostration. February 29, opisthotonos, eyes rolled up, with lids half closed when asleep. March 3, opisthotonos and rolled-up eyes. March 6, died at 8.15 p. m.

Case 8. Child aged 3 years, admitted February 17, four days sick. Much membrane on either tonsil and in pillars of fauces. Nose plugged, prognosis doubtful. Antitoxin 2,000 units on admission. February 18, antitoxin 2,000 units. February 19, antitoxin 2,000 units. February 21, "patient seems better to-day. This evening he gave a peculiar cry, heard by the nurse, and was dead on the arrival of the physician a moment later. There were no heart sounds, but artificial respiration was kept up for ten minutes, and stimulants were also given. Patient gasped several times and died."

Case 9. Patient, aged 16 years, admitted May 20; illness began May 18, well-developed and nourished. Glands of the neck enormously swollen, throat much congested, swelling and implication of left tonsil; right tonsil and right peritonsillar space and whole area back into pharynx covered with dirty white deposit. Nares partially obstructed; prognosis favorable. Antitoxin 10 c.c. 1-1000 injected on admission. May 21, 9 c.c. 1–1000. May 25, 7 c.c. 1–1500. May 26, pulse 26 to 30 per minute. Patient died 10.30 p. m.

This was a remarkably large, strong, well-developed young lady, who was brought to the hospital as soon as the diagnosis of diphtheria was made. If antitoxin has any specific influence over the toxine of diphtheria this patient should have been saved. As the report of the hospital shows, she died from the effects of the toxines on the heart and nervous centers. The pulse having ranged during the last twenty-four hours of life from 26 to 30 per minute, even with the foot of the bed elevated and with the use of all possible stimulants.

These histories are of cases brought under treatment in the early part of the disease—many of them on the first and second day. They had full doses of a supposed specific, and we do not find recorded in the clinical history one statement which would indicate that this specific modified in any particular a single manifestation of the disease, either in the laryngeal or non-laryngeal cases. Not one item in the clinical records can be found to indicate that any one of these cases was in any way benefited by the antitoxin. This is particularly noticeable in the laryngeal cases. Patients brought in without evidence of very marked croup, and after receiving full doses of antitoxin, had to be intubated 12 and 24 hours after hypodermic use of this so-called specific. The clinical records of these cases are totally against the use of antitoxin in the treatment of diphtheria. A careful study of these records will, it seems to me, convince one who is familar with diphtheria that there are clinical features here recorded which are due to the treatment and not to the disease. These features are referable to the kidneys, nervous centers, temperature and respiratory organs. There are 41 similar cases reported.

Antitoxin May Prove an Immediate Fatal Poison.—The numerous cases quoted from journal literature, showing the injurious effects of antitoxin, are many of them exact counterparts in their clinical course of the Willard Parker Hospital cases here reported, and taken together are confirmatory of the view that antitoxin may prove an immediate fatal poison, even when given in immunizing doses—that it may cause nervous phenomena, convulsions, etc., that it may cause anuria, nephritis, albuminuria, haematuria, cardiac collapse, high and uncontrollable temperature, probably due to septic processes—septic pneumonia, sub-cutaneous hæmorrhages, petechiæ, arthralgia, joint effusions, intestinal hæmorrhages, fetid diarrhoæ, etc.

In New York and elsewhere it has been claimed in defense of the serum that the unfortunate ill-effects in the form of high fever and suppurations are due to streptococcus infection; but if this were really the case they should supervene while the morbid affection is in process of evolution in the throat; whereas they usually supervene after the disappearance of all throat lesions. It is now stated that the bad effects, which formerly resulted from the use of antitoxin, were due to the amount of serum injected, and that with the use of a more concentrated serum there would be less pneumonia and bad after-effects than formerly. This is a very weak admission. It is an admission that there are bad effects from the serum. One year ago it was asserted most positively by the advocates of this treatment that there were no bad effects—that it was absolutely harmless in doses of any amount.

Antitoxin in Private Practice.—Dr. Edwin B. Tefft (New Rochelle) reports 5 cases of diphtheria treated with antitoxin, 3 deaths, mortality 60 per cent. During the same period there were 5 cases, stated by Dr. Tefft to be equally severe, treated without antitoxin ; all recovered. Cases treated with antitoxin had the same internal and local treatment as those treated without antitoxin. These antitoxin cases had a so-called specific at the very beginning of the disease, and in addition such tonic stimulating and local antiseptic treatment as one of our best physicians could devise, and yet they show a mortality of 60 per cent., as contrasted with no deaths in 5 other cases treated without antitoxin.

Dr. De Kraft had 3 cases of diphtheria in one family ; 2 treated with antitoxin at the beginning of the disease and both died ; one without antitoxin got well. Another patient in Dr. De Kraft's practice died one hour after the injection of antitoxin.

Dr. J. C. Shannon recently treated 2 patients in one family with antitoxin at the very outset of the disease, and both died.

Dr. Koempel reports the case of a child taken ill on the night of April 22d. Antitoxin during the first 12 hours; second dose the following day. Child died 24 hours later.

Dr. J. H. Bache reports 3 patients treated at the beginning of the disease, two of whom died; case third, the child of a physician, barely escaped death from the after effects of antitoxin.

Dr. P. H. Ernst reports 12 patients treated with antitoxin, 7 deaths; mortality 58.3 per cent. Sixty-five patients treated without antitoxin, 11 deaths; mortality 16.9 per cent.

Dr. John Dorning employed antitoxin in his private practice in 7 consecutive cases of diphtheria, in the early part of the disease, in some of the patients during the first 12 and 18 hours, and all the patients died.

Mortality in the Willard Parker Hospital.—

Year.	Cases.	Deaths.	Per Cent.
1894 (non-antitoxin)......	699	205	29.32
1895 (antitoxin)..........	778	190	24.42

Could those cases be eliminated which gave no clinical evidence of diphtheria, the mortality of 24 per cent. for 1895 would be greatly increased.

Dr. James Ewing made an investigation in the Willard Parker Hospital with reference to influence of antitoxin on the blood. His investigations included 53 patients with diphtheria. Fifty of these were injected with antitoxin; 19 died; mortality, 38 per cent. Dr. Ewing's investigation in the hospital was in cases in which there was clinical evidence of diphtheria, and my impression is that this report (38 per cent. mortality) would fairly well represent the actual mortality of the Willard Parker Hospital at the present time under serum-therapy, if patients who have clinical evidence of diphtheria were subjected to this treatment to the exclusion and elimination of those cases which have not clinical data to warrant the diagnosis of diphtheria. In order to determine the result with reference to larger or smaller doses of serum, it was decided in the autumn of 1895 to give to alternate cases, as admitted into the hospital, doses of serum of 1,000, 2,000 and 3,000 units, respectively. There were two series of cases, known as mild and severe, having 2,000 and 3,000 units respectively. In the two series of cases marked "severe," having 2,000 and 3,000 units respectively, at a dose, there were 23 patients in the series having 2,000 units, of whom 7 died; mortality, 30.4 per cent.; and there were 22 cases in the series marked "severe" having 3,000 units; of these 11 died; mortality, 50 per cent. In the two series marked "severe" the cases were probably of nearly equal severity, inasmuch as they were alternate cases as received into the hospital, the mortality being higher with the larger doses of serum, in a series of parallel cases. Since these experiments no child has received doses of 3,000 units. In this series of experimental dosage there were 94 cases; 24 deaths; mortality, 25.5 per cent.

Mortality in Children Under Two Years in Willard Parker Hospital.—Children under 2 years in 1894, 163 cases; 84 deaths; mortality, 51.5 per cent. In 1895 (antitoxin year), 153 cases; 95 deaths; mortality, 62.1 per cent.

At the very time of life when diphtheria is most dangerous we have in the Willard Parker Hospital a mortality of 10.6 per cent. greater with antitoxin treatment than without.

Antitoxin in New York Foundling Hospital.—PROF. J. LEWIS SMITH has reported 31 diphtheria patients treated with antitoxin in the New York Foundling Asylum—12 on the first day, 17 on the second or third day, 2 on the fourth or fifth day—17 died, mortality 54.8 per cent. Mortality in New York Foundling Asylum in 1894 (non-antitoxin year) 24 per cent. 1895 (antitoxin year) 45.7 per cent.

Municipal Hospital, Philadelphia.—During the year 1895 there were 705 cases of diphtheria treated in the Municipal Hospital, Philadelphia. Three hundred and two of these received serum; 404 treated without antitoxin. No patient was injected who had been ill more than 4 days at the time of admission to the hospital. Cases that were considered hopeless on admission did not receive serum treatment; all patients that were considered hopeless and brought to the hospital were placed with the non-serum treated cases, and some of these died within an hour after admission. The mortality in the 302 cases treated with serum was 28.1 per cent. The mortality in the 404 cases treated without antitoxin was 25.9 per cent. The cases treated with serum had the same local antiseptic treatment and the same internal medication and stimulation that were given to the series of non-serum treated cases, and yet with a so-called specific added to the treatment in a far more favorable series of cases, there is a higher death-rate than in those not treated with serum.

Results in Blegdam Hospital, Copenhagen.—Fifty-one cases of severe diphtheria treated with serum, 46 cases of severe diphtheria treated without serum, during the same period—mortality 33 per cent. in both series. The average age of those treated without serum was lower than those treated with serum. Among those who died who were treated with serum, they were admitted earlier to the hospital than those who were not so treated. At the time of admission to hospital, complications were more pronounced in the cases treated without serum—the air passages being affected in 8 cases, while with those treated with serum only 3 times. Severe complications of the kidneys (after admission to the hospital) were observed only in those treated with serum. The serum was used earlier in the fatal cases than in the cases which recovered. That is, the day of the first injection was, on an average, earlier in the fatal cases than in the successful cases. From our experiments we cannot see any favorable action of the serum. On the other hand, we observe more severe hemorrhages, albuminuria, nephritis, toxicanuria, fever, eruptions, etc., in those treated with serum. The serum was also used in croup cases complicated by severe diphtheria, and in mild cases of croup for the purpose of preventing stenosis. The mortality in all cases (operated and not operated) was 28 per cent., and for operated cases 40 per cent.; but during this same period there were 87 cases of croup that were not injected; the mortality in these for all cases (operated and not operated) was 25 per cent., and for operated cases 38 per cent. Therefore, lower than in those treated with serum. Severe diphtheria complicated with croup did very badly with this treatment. All such patients died, and the good result in milder cases is explained by the good type of the present epidemic.

Report of the Medical Superintendents of the Metropolitan Asylums Board (London) 1895.—This report embraces 2,182 cases of diphtheria treated with antitoxin, 615 deaths, mortality 28.1 per cent. The Medical Superintendents compare this report with that of 1894, when 3,042 cases of diphtheria were treated in all the hospitals of the Board without antitoxin, 902 deaths, mortality 29.6 per cent.; but we find that in the Northwestern and Southwestern Fever Hospitals of London the following results to compare with the antitoxin statistics :

S. W. Hospital.—

Year.	Cases.	Deaths.	Per cent.
1892	463	93	22.5
1893	585	159	27.1
1894	546	156	28.5
	1,504	408	25.5

N. W. Hospital.—

Year.	Cases.	Deaths.	Per cent.
1892	682	138	21.8
1893	1,249	332	26.5
1894	1,147	309	26.9
	3,078	779	25.3

S. W. Hospital.—

Year.	Cases.	Deaths.	Per cent.
1895 (antitoxin).	316	94	29.7

N. W. Hospital.—

Year.	Cases.	Deaths.	Per cent.
1895 (antitoxin).	363	117	32.2

In the Southwestern and Northwestern Hospitals.—

Years.	Cases.	Deaths.	Per cent.
1892-93-94........	4,672	1,187	25.4

In all the Hospitals.

Year.	Cases.	Deaths.	Per cent.
1895 (antitoxin).	2,182	615	28.1

There were 225 tracheotomy cases in all the hospitals of the Metropolitan Asylums Board in 1895, treated with antitoxin, 113 deaths, mortality 50.2 per cent. During the year there were 30 tracheotomy cases in these same hospitals that did not receive antitoxin, 12 deaths, mortality 40 per cent.—10.2 lower without antitoxin than in those treated with antitoxin. This is just the result to be expected when a depressant like antitoxin is added to the treatment of cases of diphtheria so serious as to require tracheotomy. It cannot be said that the tracheotomy cases which were not treated with antitoxin were mild cases. The tracheotomy cases treated with and without antitoxin during the year 1895 were cases of the same degree, and offer a very good field for comparison of results.

At the Northwestern Hospital during 1892–93–94 there were 215 tracheotomy cases, 124 deaths, mortality 57.6 per cent. During 1895 there were 28 tracheotomy cases in this hospital treated with antitoxin, 18 deaths, mortality 64.2 per cent. During the year 1895 there were 4 tracheotomy cases in the Northwestern Hospital treated without antitoxin—all recovered. Nothing could be more conclusive of the depressing and dangerous effect of the antitoxin in that severe form of diphtheria of the larynx and trachea, which necessitates tracheotomy, than the records of the Northwestern Fever Hospital for the years 1892–93–94–95.

Antitoxin in Laryngeal Diphtheria.—About the only claim made for antitoxin at the present time by its advocates is that it has a favorable influence in laryngeal diphtheria ; that it relieves stenosis ; that it obviates the necessity for operative interference ; that the mortality is lower in non-operated cases and operated cases treated with serum ; that the tube can be removed earlier when operation becomes necessary. If antitoxin does not cause a " melting away" of the membrane, as it was first claimed, and does not lessen the duration of the membrane in the visible portions of the throat, what reason have we for supposing that it influences the duration of the membranes in the larynx? The mortality in the Willard Parker Hospital for the first nine months of 1895 in intubation cases treated with antitoxin was 68 per cent., and for the last quarter 76.9 per cent. During the first quarter of 1896, 67.7 per cent. In April, 72.7 per cent.

In the Municipal Hospital, Philadelphia, there were in 71 intubation cases treated without serum in 1895, 40 deaths, mortality 56.3 per cent.

Wiederhofer gives mortality of 43 per cent. in intubation cases before serum treatment.

Von Ranke, in 326 intubation cases, mortality 57.4 per cent. before serum treatment.

Meisenbach, 57 per cent. in tracheotomy cases in the Philadelphia Children's Hospital, before serum treatment.

In Strassburg, in 397 tracheotomy cases (1891–94), mortality was 44.3 per cent.

In Geneva (1872–88), mortality in tracheotomy cases, 49 per cent.

In the University College Hospital (London), mortality in tracheotomy cases in 1894 (non-antitoxin year), 47 per cent.

Is not the very high mortality in intubation cases treated with antitoxin in the Willard Parker Hospital, when compared with the results in intubation cases without antitoxin in the Municipal Hospital, Philadelphia, and the intubation cases reported by Wiederhofer and Von Ranke, before serum treatment, and in tracheotomy cases in Philadelphia and in all parts of the world, before serum treatment, a most positive warning against the use of this treatment in this serious and dangerous form of diphtheria? Why is it that antitoxin has to-day the hold on the profession which it has? The fame of antitoxin is largely due to the influence of two hospitals—the Empress Frederick Hospital (Berlin) and the Hospital for Sick Children in Paris. We find that the Empress Frederick Hospital received 875 cases of diphtheria during 14½ months of serum treatment, and that there had been received into the same hospital during the previous four years only 1,063 cases of diphtheria. It is owing to this increase in the number of cases of diphtheria in the various hospitals, and the increase in the number of cases reported as diphtheria, as the result of the bacteriological diagnosis in various cities of the world, that antitoxin is reputed for reducing the death-rate of diphtheria. A careful examination of the subject reveals the fact that the actual number of deaths have not been lessened, but, as stated at the outset of this article, the fame of antitoxin rests on the reported decreased percentage mortality. We find on examination of the reports from various cities and hospitals just what was pointed out, with reference to the city of Boston as a whole, and of the Boston City Hospital, that the actual number of deaths have not been lessened.

GENERAL MEETING, JUNE 4, 1896.

Experiences With Antitoxin.—Dr. P. H. Ernst read a paper, in which he reported 77 cases of diphtheria, treated by him, for the most part, in dispensary practice. Of the 12 cases treated with antitoxin, he had considered 8 to be severe and 4 mild. Five of these recovered. Of the 65 cases treated without antitoxin, he had considered 42 to be severe. Of the 65 cases, 11 died. Eleven of this series required to be intubated, and four of these died. The speaker said that as he had not found that the antitoxin exerted the slightest favorable effect on the disease, and as those treated with it, and recovering, seemed to have an unusually protracted convalescence, he had long since abandoned the use of antitoxin.

Diphtheria, With and Without Antitoxin.—Dr. W. L. Stowell said that from March, 1888, to March of the present year, he had treated at the Demilt Dispensary 240 cases of diphtheria, with a mortality of 11.4 per cent. It should be noted that while the annual number of cases of diphtheria in New York City for the three years preceding the system of making the diagnosis by bacteriological examination, was 4,300 4,900 and 4,600, the annual number of cases in the next three years was 6,400, 8,900 and 9,925. Again, although in 1889 there had been the largest number of deaths from diphtheria for twenty years, this year had been contrasted by the advocates of antitoxin with the year 1894, when the disease had been comparatively mild. The mortality from this disease varied very greatly in different years, irrespective of treatment. Thus, in 1896, there had been 900 deaths less than in the preceding year, yet it had not been thought worthy of mention. The mortality in the Willard Parker Hospital, from 1889 to 1895, as shown by the official records, was 24 per cent. In 1894 it was 27, and in 1895 23.1 per cent—not a great gain from the use of antitoxin. According to Lennox Browne, there had been treated in the hospital in London, from 1888 to 1894, 11,000 cases of diphtheria, with a mortality of 30 per cent. In 1895, in the same hospital, 2,100 cases were treated with antitoxin, with a mortality of 28 per cent. It was not until 1,300 cases had been included, in which antitoxin had not been used, that the mortality had been reduced to 22 per cent.

Marked reductions in the death-rate had been reported at different times in series of cases treated by all sorts of methods. A striking example of this was to be found in a report made in 1886 by Billington, of 225 cases treated in dispensary practice, by well-recognized methods, with a mortality of only 8.25 per cent. He had himself treated in 1895, 64 cases of diphtheria, most of them comparatively mild, and, although he used the same treatment as formerly, the mortality that year was only 7.8 per cent., as compared with 13 per cent. in the previous year. There could be no doubt that there was much more broncho-pneumonia observed in hospital practice as a complication of diphtheria since the adoption of the antitoxin treatment. In the Willard Parker Hospital, in 1894, 16 per cent. developed this complication, whereas, in 1895, it was present in 53 per cent. The results of immunization experiments must be taken with a good deal of allowance, on account of the well-known clinical fact that, even when brought into close contact with the disease, many escape it altogether. His cases had been distributed in fifty families, yet, although antitoxin had not been used for immunization, in only eight was the disease duplicated. In his opinion, fresh air and sunlight would furnish as efficient immunization as could be obtained from the antitoxin.

DISCUSSION.

DR. WILLIAM H. THOMSON, in opening the discussion, referred to some of the sources of fallacy in determining the value of diphtheria antitoxin. In the first place, it was necessary to know the percentage of recoveries without treatment. The great uncertainty in the diagnosis was responsible for many errors in statistics, and another prolific source of error was to be found in our inability to make an exact prognosis on account of the very important part played in these infectious diseases by the nature of the individual "soil," as well as by the ever-varying virulence of the pathogenic microbes themselves. It was wholly illogical, therefore, to suppose that any remedy could ever be a specific for an infectious disease. Those who oppose the antitoxin treatment of diphtheria argue as if the failures proved the uselessness of the treatment. Following out this line of argument, it would not be difficult to "prove" in the same way that mercury in syphilis, and quinine in malaria, were useless. To settle its value at the present time ought not to be very difficult, for there were reports from all over the world regarding the results obtained from the administration of antitoxin in diphtheria. Dr. Thomson then read statistics from very many parts of the globe bearing on this subject. They comprised reports from 85 hospitals, and a total of 9,893 cases of diphtheria treated, with 1,820 deaths, or a mortality of 18.3 per cent. Fifty-three of these reports, representing 7,277 cases, compared the mortality during the antitoxin period with that previously existing, with the result that it had fallen fully 50 per cent. since the adoption of the antitoxin treatment. Dr. Winters argued that if diphtheria antitoxin were a specific it should be invariably successful, but there were no specifics in the sense in which Dr. Winters used this term. Reports from private practice showed that of 3,760 cases of diphtheria treated with antitoxin 296 died, giving a mortality of 7.8 per cent. If the hospital cases already quoted were included, the total number of cases would be 13,653, and the mortality 15.5 per cent. Dr. Thomson, in concluding his remarks, expressed his conviction that the diphtheria antitoxin had been proven to be of great efficacy, and that it should rank as one of the great achievements of the nineteenth century.

Dr. George L. Peabody said that it certainly was not fair to argue that a remedy was no remedy at all, simply because it had not uniformly reduced the mortality all over the world. As an example of how statistics were affected by the fidelity with which a given plan of treatment was carried out, he referred to the fact that Brandt had reported 19,000 cases of typhoid fever, treated by his cold bath method, by all classes of observers, with a mortality of 20 per cent., whereas 8,000 cases had been treated by those having faith in the treatment, with a mortality of only 8 per cent. It was not fair to assume, as Dr. Winters had done, that many of the early deaths had been due to the use of antitoxin. We had not been told the details of these cases, and it was just as probable that death was the result of a mixed infection. In the few instances in which the immunizing serum had failed, it was not unreasonable to suppose that the disease was already dormant in the system of the individual. He was not like those physicians, quoted by Dr. Winters, who, having watched the treatment of diphtheria with antitoxin, would have none of it themselves. He had received last winter a large dose of the antitoxin, and was still alive—indeed, with the exception of a slight urticaria around the site of puncture, he had observed no harm from it. It was not impossible that impurities or toxic substances might exist in the serum, but this would only argue against these substances, and not against the antitoxin. He had been informed that the presence of impurities could be readily detected by the physician, and hence accidents from this source might be easily prevented. Again, one should not overlook the fact that individual susceptibility was an important factor. For example, he had himself immunized three persons at the same time with the same antitoxin, and with the same syringe ; yet one, an adult, had developed distressing urticaria and joint pains, while the other adult and the child had been free from any such symptoms. The paper of Dr. Winters had impressed him with the fact that, according to its teaching, we should accept all evidence against antitoxin, and reject all evidence favorable to it.

Dr. A. A. Smith sent a letter expressing himself as in favor of the antitoxin treatment of diphtheria, and inclosing a communication from Dr. J. J. Kinnion, of the Marine Hospital Service, which he requested the Secretary to read. In this letter, Dr. Kinnion stated that as a result of a collective investigation that had been carried on by the Marine Hospital Service, reports had been received from 109 cities. The cases of diphtheria so reported from 1891 to 1894 numbered 131,620, with 51,820 deaths, or a mortality of 39 per cent. In 1895 the same cities had reported 45,690 cases of diphtheria and croup, with 11,640 deaths, or a mortality of 25 per cent. Where antitoxin had been used most extensively, the death rate had been most markedly reduced, and where antitoxin had been but little used the death rate had remained at about the former figure. These cities also reported 2,936 cases treated without antitoxin, with 1,010 deaths, or a mortality of 41 per cent. Out of over 2,400 children who had received the serum in immunizing doses, only 19 mild cases of diphtheria had developed within a few days of the injection—in other words at a time which would indicate a failure of the serum to produce immunization. There did not seem any reason to believe that these official reports had been manipulated so as to give a more favorable showing for the antitoxin.

Dr. J. W. Brannan took upon himself the task of refuting the charges made by Dr. Winters that the Willard Parker Hospital was responsible for harming and even taking the lives of some of the children by reason of the continuance of the antitoxin treatment. He said that from the first Dr. Winters had shown himself prejudiced against the bacteriological diagnosis and the antitoxin treatment, and after having observed the cases for about three months he had suddenly come out in the Academy with the most positive statements regarding the inefficacy and, particularly, the harmfulness of the treatment. Dr. Winters had referred to a number of cases of diphtheria, treated with antitoxin at the Willard Parker Hospital during the first four months of 1895 and 1896. He had given their histories very briefly, and had stated in a general way that, although the prognosis in most all of them was favorable, the cases all proved fatal. In reply, he would say that in the first four months of 1895 nineteen fatal cases were injected on the second or third day, only five of which were over three years of age. Twelve of the number had laryngeal stenosis and had required intubation, and the single adult case was apparently about to have an attack of delirium tremens at the time of his entering the hospital. The hospital records stated that the prognosis was doubtful in six, bad in five, and good in eight cases. In the first four months of 1896, 33 fatal cases received the serum on the first, second or third day, 29 of which were under three years of age. Out of the 33, 22 had laryngeal stenosis, and 19 required operation. There were also 15 with pneumonia, and two of the patients were distinctly septic. The hospital records stated the prognosis to be good in 2, doubtful in 20, and bad in 3 cases. These were the cases that Dr. Winters had stated were all practically favorable.

Again, it had been maintained that there was more evidence of cardiac weakness in the hospital now than formerly, that more stimulants were used, and that the children suffered more from diarrhœa. To this he would reply, that to make sure on the question of the quantity of stimulants, he had requested a statement from the clerk of supplies concerning the quantity of alcoholic stimulants furnished to the hospital in the period from 1894 to 1896. The answer showed that the daily consumption of alcohol, per patient, in 1894, was .65 oz., and in 1895 and 1896, .43 oz. per patient. Only one case of marked diarrhœa could he recall—the trouble had been more from constipation. Indeed, he would say here that none of the physicians, except Dr. Winters, had been able to observe anything very striking about the effect of antitoxin in the hospital, except that the mortality had been less. In 1894 the mortality was 34.32 per cent., and in 1895, 26.39 per cent. In 1894, the mortality among those injected on the first day was 19 per cent. Among the intubated cases in the hospital, the mortality had been reduced from 85 per cent. to 72 per cent. Dr. Winters, in commenting on the mortality among the laryngeal cases, had confounded the operative and non-operative cases. It had been charged that since the introduction of the antitoxin treatment into the hospital, the cases admitted had been milder, and that many of them had little or no membrane in the throat at the time of admission. To this he would reply that the hospital records showed that in 1894 one-third of those admitted had no membrane, or only a small patch on the tonsil at the time of entering the hospital.

Dr. Brannan said that he was surprised that no mention had been made in Dr. Winters' paper to the lesions that they had had an opportunity of observing in the numerous autopsies held at the hospital. In this connection, he would mention that Kalisko, of Vienna, who had had a large experience in autopsies on diphtheria, had stated his conviction that the serum caused a distinct loosening and separation of the membranes, and that the anatomical changes in the organs were exactly the same as had been observed prior to the use of antitoxin. It had been asserted by some that the lesions of nephritis were more common, but he had found that before the antitoxin treatment, almost every case in a series would show nephritis, and at other times these lesions would be exceedingly rare. He had noted the same fact since the adoption of the antitoxin treatment.

In the paper under discussion, the names of many both here and abroad had been quoted as opponents of antitoxin. Many of these physicians, it would be found, had had little or no experience with diphtheria prior to the antitoxin period. One of them, Dr. Levy, referred to as an opponent of the treatment, had published a paper last July, in which he had taken the stand in favor of antitoxin. At present, the chief opponents of the antitoxin treatment throughout the world were: Thompson, of Berlin; Kassowitz, of Vienna; Lennox Browne, of London, and Dr. Winters, of New York. Virchow had been opposed to the treatment, but had been convinced by the statistics that antitoxin was of value.

Dr. H. W. Berg said that while in private practice he had not seen as much broncho-pneumonia as formerly, it could not be denied that it was of very common occurrence in hospital. It was very probably due to the fact that by the antitoxin treatment a larger proportion of persons had their life prolonged, and so time was given for the development of this rather late complication. The cases treated by Dr. Ernst, and reported this evening, having occurred in dispensary practice, must have been in very many instances seen first when the disease was already advanced; and certainly from his description of them, it would appear that they were of a severe type. Dr. Winters had assiduously collected together a vast array of facts, but had drawn from them most illogical conclusions. His great argument against antitoxin was that a number of sudden deaths had occurred after its administration, but surely this had not been a sufficiently constant sequel of the new treatment to warrant one in blaming the treatment for it. Sudden deaths had been reported in diphtheria not infrequently, and without any connection with the method of treatment adopted. The antitoxin treatment seemed to be founded on such definite and scientific experimentation that, in his opinion, it was incumbent upon the opponents of antitoxin to prove that the striking results obtained in the laboratory could not be reproduced in practice on the human subject. In private practice he had found it a most remarkably remedy.

Dr. A. Caille said that he had come to the meeting this evening prepared to prove that Dr. Winters' communication had no scientific value, but as this had already been done he would only briefly refer to the result of the collective investigation undertaken by the American Pediatric Society. The report of the committee having this matter in charge had just submitted their report, which embraced 6,000 cases from 615 private practitioners, and from 114 cities and 15 States, including Canada. Only those cases were considered in which the diagnosis was confirmed by bacteriological examination. The report showed that Behring's claim that the mortality in diphtheria could be reduced by the antitoxin treatment to 5 per cent., or less, had been fully substantiated. Personally, the speaker said, his experience with antitoxin in the treatment of diphtheritic croup had been most encouraging. Formerly his mortality in this class had been about 70 per cent., yet recently under the influence of antitoxin he had had the pleasure of seeing ten consecutive cases of this kind recover. Opposition was to be expected as one of the accompaniments of the evolution of scientific medicine, yet he was convinced that diphtheria antitoxin had come to stay, and he thought we were justified in rejoicing that we had such a potent remedy at our command.

Dr. Harold Ernst, of Boston, said that his experience had taught him the necessity of emphasizing the importance of only using reliable antitoxin, and only that from a freshly-opened bottle. Most serious results might follow a neglect of this very obvious precaution. As he was in charge of the production of antitoxin in Boston, and received all the reports regarding the effects observed from it, he was in a position to furnish some interesting statistics. He had received reports of 1,164 cases, 983 in hospital, and 181 in private practice. Of the former, 152 died, or a mortality of 15.6 per cent., as compared with a mortality of over 40 per cent. for years back in the Boston City Hospital. Of the 181 private cases, 15 died, or 8.2 per cent. The general mortality of these reported cases was, therefore, 14.3 per cent., whereas the records of the Boston Board of Health showed that for the last twenty years the mortality in no year had been less than 26.5 per cent. Last year the mortality from diphtheria in Boston was 14.48 per cent. He also had reports of 346 cases in which the serum had been used for immunization, 272 of these being in the children's hospital. In not one had there been reported any albuminuria, paralysis or other serious result. This should be in itself a sufficient refutation of the charge that antitoxin serum is harmful.

Dr. George McNaughton, of Brooklyn, said that when he had reported to the Pediatric Section a year ago the treatment of 19 cases of laryngeal diphtheria with antitoxin, with 17 recoveries, Dr. Winters had asserted that this did not mean anything. But another year's experience with antitoxin had convinced him still more than at that time that such results did mean something. His cases had all been seen in private consultation practice, which was a sufficient guarantee that most of them were of a severe type. He had seen altogether 89 cases of laryngeal diphtheria, and all except five of these had been intubated. There were 30 deaths in the entire series. A comparison of 72 cases treated just prior to the adoption of the antitoxin treatment, and of 72 cases treated with the antitoxin serum, showed that of the former 48 died, and of the latter 24 died. He was positive that these statistics proved that antitoxin did have a definite value.

Dr. W. H. Park reminded his hearers that the death-rate from diphtheria had been uniformly lowered all over the country, and that where antitoxin had been most extensively used, there had this reduction been most notable. Out of the 2,000 cases immunized by the Board of Health in New York, there had been no complications worthy of note except in 2 cases, and these had not been specially serious. Only 6 persons out of this large number had developed the disease between the second and thirtieth day after the immunization. The speaker said that he had spent a great deal of time in the Willard Parker Hospital, studying the same cases as had been reported upon by Dr. Winters, yet he felt with the other attending physicians that the clinical picture given by Dr. Winters of these cases was not what he had observed. Dr. Winters had evidently not exercised proper care in collecting his statistics, for he had made the statement that there had been 8 consecutive recoveries from laryngeal diphtheria in that hospital in December, whereas careful reference to the hospital records showed that all these cases that month had died.

Dr. Herald, of Newark, presented statistics collected by the Board of Health of that city. He said that prior to the establishment of the system of making bacteriological examinations to confirm the diagnosis of diphtheria—i. e., January 1, 1895—the mortality from diphtheria had been about 35 per cent. From January 1 to July 20, 1895, the time when they had begun the use of antitoxin prepared in Newark, the mortality from the disease was 29 per cent. From July 20, 1895, to May 1, 1896, 1,039 cases of diphtheria had been reported, with 243 deaths, or 23.1 per cent. In the 653 cases out of this number in which antitoxin was known to have been used, the mortality was 13.5 per cent., whereas in the 386 cases in which it was not used the mortality was 39.6 per cent. In the City Hospital, the mortality formerly was 42.8 per cent., whereas since the use of antitoxin the mortality had been 16.4 per cent.

Dr. Henry F. Koester said that from February 28, 1895, to the first of the present year he had used antitoxin in 200 cases, seen in private practice, with 40 deaths, or 20 per cent. Of these 200, 36 were laryngeal, and of the latter 10 died, giving a mortality of 27.7 per cent. Of the 7 cases intubated, 3 died, giving the mortality in these particular cases of 43 per cent. He had used the serum for immunizing purposes in 355 cases, of which number 4 developed diphtheria within twenty-four hours. He had seen no bad results from the use of serum, and now preferred to use as an initial injection in diphtheria as large a dose as 2,000 units—four or five cubic centimeters.

Dr. J. Milton Mabbott said that he had been unable to learn that there had been any marked actual diminution in the number of deaths. He had met with a number of cases which had not presented the clinical evidences of diphtheria, and yet had been pronounced to be such by the bacteriological examinations of the Health Board. In the few cases in which he had known of antitoxin having been used in private practice, the disease had been of a mild type, so that the results could not be considered as a fair test of the efficacy of the remedy. Personally, he did not yet feel sure of the value of the remedy in persons in whom diphtheria already existed.

Dr. Winters, in closing the discussion, said that Dr. Harold Ernst, in calling attention to the lowered death-rate from diphtheria in Boston, had neglected to state that there had been 112 more deaths in Boston in 1895 than in 1893. The percentage death-rate was what was given us in almost all the reports on antitoxin, yet this was absolutely valueless unless coupled with a statement of the total number of cases, and the total number of deaths. Some of the reports furnished much interesting food for thought regarding the natural and great variations in the type of the disease in different years. Thus, in Boston, in 1886, or 1887, there had been 232 deaths from diphtheria, while two or three years afterward there had been 870 deaths. Again, in Philadelphia, 350 cases had been reported in one year, 375 the next, and three years later 1,400. In the Willard Parker Hospital, since the use of antitoxin, the mortality in intubated cases had been about 68 per cent. This might be contrasted with 71 cases of intubation in the Municipal Hospital, Philadelphia, in 1895, without antitoxin, with a mortality of 56.3 per cent. He would say, in reply to Dr. Brannan, that he had not limited the cases quoted to the first months of either 1895 or 1896, but had taken them from the records since the commencement of the use of antitoxin, and in reading them had given the dates of admission. His first impressions regarding the action of antitoxin had been gained from the observation of the case of a young and vigorous physician who had entered the Willard Parker Hospital. He had a severe but uncomplicated diphtheria, and, in spite of all treatment, died at the end of two weeks and one day, without, so far as he could see, the antitoxin having favorably affected a single symptom. So deeply had he been impressed by this case that he had sought the advice of the late Dr. A. L. Loomis, and had been advised at that time to make known his views regarding the treatment. He had, however, shrunk from doing so at that time lest it might be premature and ill-adjudged, and so lead to harm by depriving others of whatever benefits should accrue from the use of antitoxin. He had been accused this evening of being prejudiced. It was awful to be prejudiced against any remedy which could possibly do good in such a terrible disease as diphtheria, and those who knew him best knew that it would not be possible for him to cast a word of doubt upon any remedy which could possbly be of the least benefit in diphtheria. If he could have been led to believe that antitoxin, though valueless as a remedy, was still harmless, he would not even then have spoken against it as he had done. He felt confident that in time every member of the Academy would be led by his own convictions to take the position in which he found himself at present.

DEFINITION AND CLASSIFICATION OF IDIOCY.

By Frederick Peterson, M.D.,
New York,
Formerly Neurologist to Randall's Island Hospital for Idiots ; Clinical Professor of Insanity in the Woman's Medical College of the New York Infirmary ; Chief of Clinic, Nervous Department, College of Physicians and Surgeons, New York.

IN attempting to make a good definition and prepare a classification of idiocy, we meet with much the same difficulties as exist in connection with the allied subject of insanity. The innumerable definitions and classifications of insanity by different authorities are familiar to all students of morbid psychology. Each author feels called upon to be original in this particular, or at least to modify and improve upon the dicta of previous writers. This confusion is quite paralleled in the matter of idiocy ; and it is easy to understand why this should be so, for in both conditions we have deviations from the normal mental state of every possible shade and degree, depending upon a most varied pathology. The etiology is complex, and the psychic and somatic symptomatology multiform. There is no wonder, then, that the clinical picture is hard to draw, and the arrangement into clinical types difficult in the extreme. It is impossible to make any comparison between the psychological state of idiots and that of normal children, for the former is not only one in which the mental faculties are diversely undeveloped or impaired as regards their quantity, but there is infinite variation in the quality of the idiot's psychic functions. Likewise it is impossible to contrast the mental organization of the idiot with the intelligence of the lower animals, for the idiot is always abnormal, while the animal is a normal being in the zoological series to which he belongs. The following are selected from among many definitions of idiocy that have been given by various authorities of different countries :

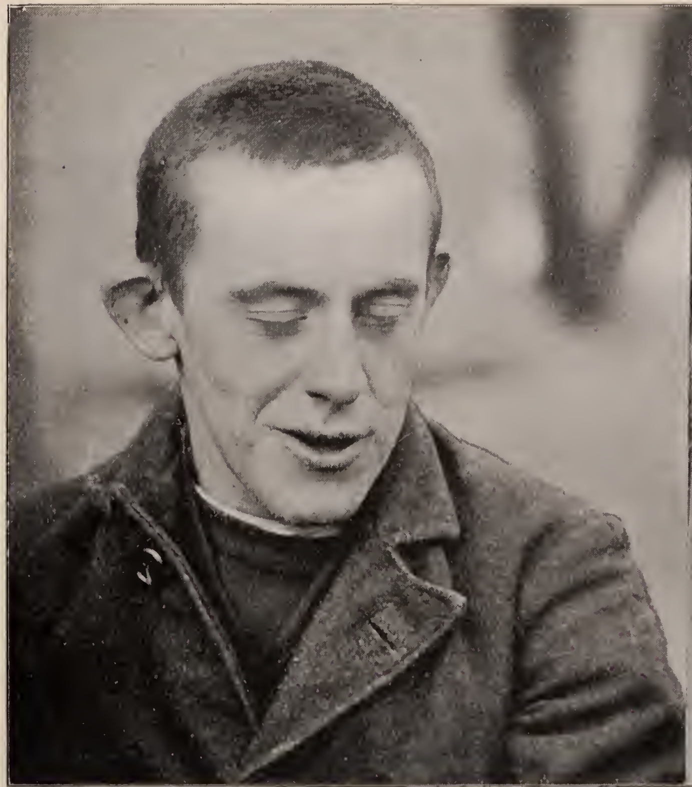
Pinel.—Abolition more or less absolute either of the functions of the understanding or of the affections.

Seguin.—Idiocy is an intelligence badly served by imperfect organs, with instincts limited but imperious, sensation and reflex action taking the place of attention, comparison, judgment, memory, foresight and will.

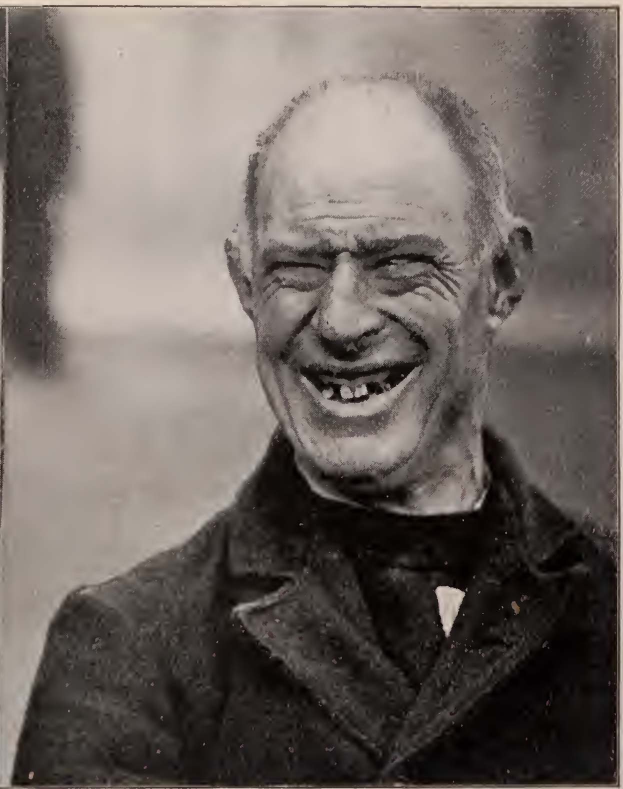
Esquirol.—A particular state in which the intellectual faculties have never been developed.

Belhomme.—A state in which there is an obliteration of the affective and intellectual faculties.

Felix Voisin.—A particular state of the mind in which the in-



Hemiplegic Idiot. (De Blainville Ears.)



Good-Natured Imbecile. Capable of Work,

stincts of conservation and reproduction, the moral sentiments and the intellectual and perceptive powers are never manifested ; or the particular state in which the different virtualities of our being, together or separately, are only imperfectly developed.

Annual Congress of German Alienists, 1881.—Idiots are all such psycopaths as are deprived either partially or completely of intelligence at the time of parturition or in early infancy. (Definition of committee composed of Drs. Cramer, Guttstadt, Ideler, Koch and Koehler).

Sollier.—A chronic cerebral affection from various lesions, characterized by disorder of intellectual, sensory and motor functions, sometimes to so great a degree as their almost complete abolition, and which receives its special character, particularly as regards intellectual troubles, from the youthfulness of the subject affected.

Griesinger.—By the term idiocy we are to understand those conditions in which a state of mental weakness has existed from birth or from early infancy, and in which the psychical development has been thereby impeded or prevented.

Marce.—An arrest of the development of the intelligence, due to a congenital or accidental defect of the brain.

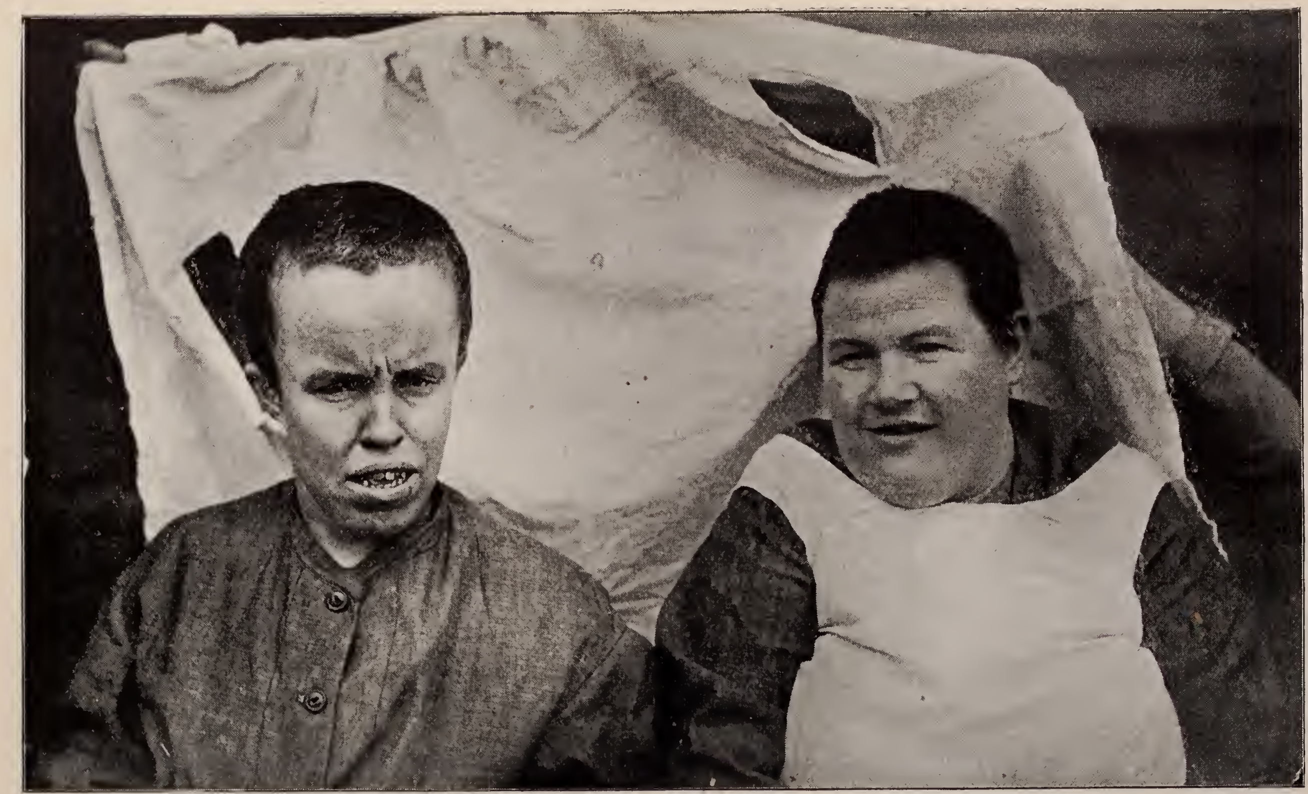
Jules Voisin.—The idiot is an individual whose faculties, intellectual, sensory and motor, are not developed, or are developed abnormally and defectively, or, further, are arrested in their evolution before or some years after birth, to a degree that they cannot overcome, because of foetal lesions or various chronic lesions of the brain.

Ireland—Idiocy is mental deficiency, or extreme stupidity, depending upon mal-nutrition or disease of the nervous centers, occurring either before birth or before the evolution of the mental faculties of childhood.

What seems to be desirable in a definition is that there should be expressed in it the condition of mental weakness existing, the facts that the condition may be congenital or acquired, and may be due to a defect or some disease of the brain, and, further, that the condition is one belonging to the developmental period of life. A definition something like the following would seem to me to fairly express these desirable points :

Idiocy is mental feebleness due to disease or defect of the brain, congenital, or acquired during its development.

As regards classifications, they have been made upon a basis of symptomatology, psychology, etiology, craniology, teratology, and to



Hydrocephalic Imbecile.

Idiot with Multiple Sclerosis.

a certain extent of pathology. Some of these attempts at classification are given below :

Kerlin. 1. Idiocy.
2. Idio-imbecility.
3. Imbecility.

Langdon Down.
1. Congenital.
2. Developmental.
3. Accidental.

(Down has also made some twenty sub-types under these headings, and has made an attempt at a somewhat fanciful and impracticable as well as unscientific, classification into ethnological groups, such as Caucasian, Ethiopian, Mongolian or Kalmuck, Malayan and Negroid).

Henke. 1. Stupidity.
2. Imbecility.
3. Foolishness.

Spielmann.
1. Apathetic idiocy.
2. Stupidity.
3. Imbecility.

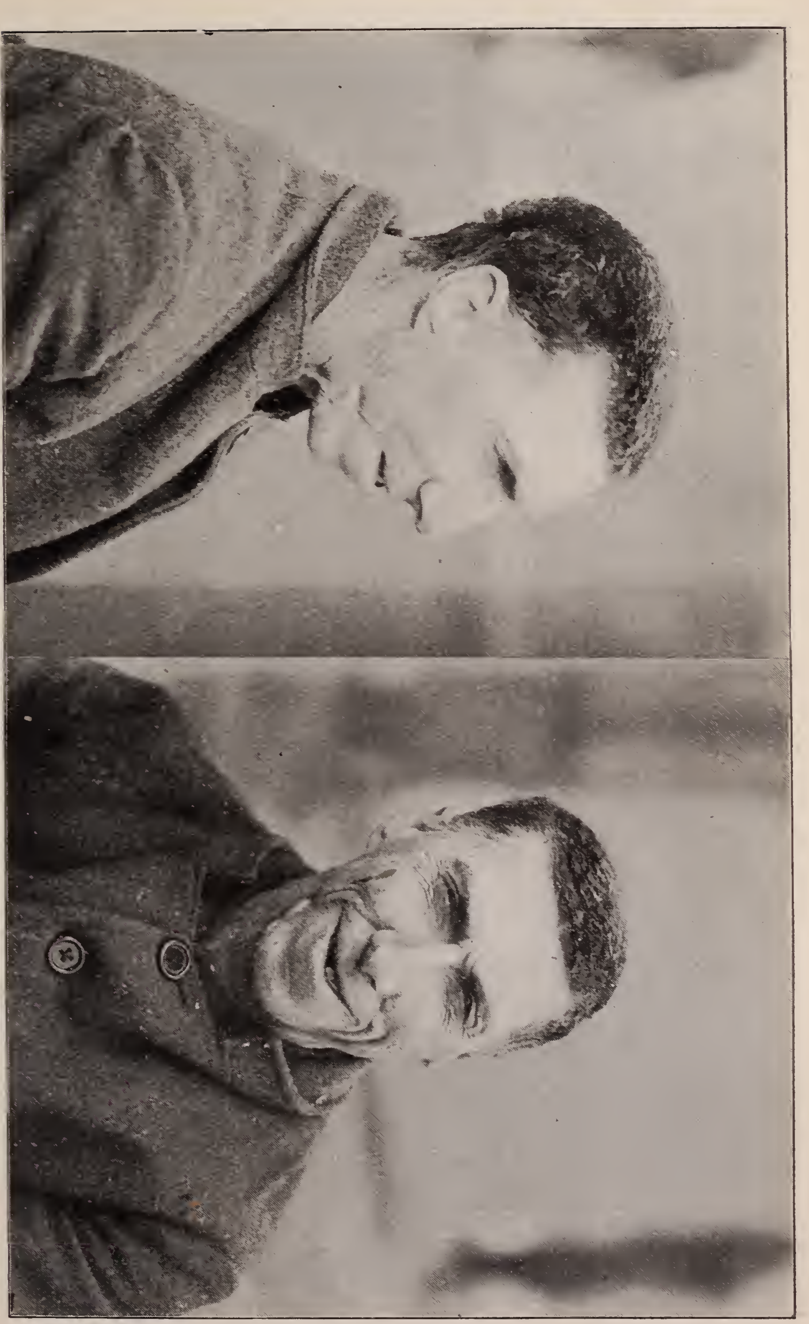
Morel. 1. Simpleness.
2. Imbecility.
3. Idiocy.

Sollier. 1. Absolute idiocy (complete absence of and impossibility of attention).
2. Simple idiocy. (Feebleness and difficulty of attention.)
3. Imbecility. (Instability of attention.)

Esquirol.
1. In which isolated words and short phrases are used.
2. In which only monosyllables and certain cries are used.
3. In which speech is absent.

Dubois d'Amien.
1. Present the highest degree of brutishness, and are reduced to automatism.
2. Possessing only instincts.
3. Possessing instincts and some reasonable tendencies.

Belhomme.
1. Idiocy profound and complete.



MICROCEPHALIC IMBECILE (Two Views). Good-natured, Fair Worker.

2. Idiocy with the instinct of conservation and eating like a brute (incomplete idiocy).
3, 4 and 5, various degrees of imbecility.

Felix Voisin places idiots in four categories, entirely psychological and symptomatic.

Bourneville.

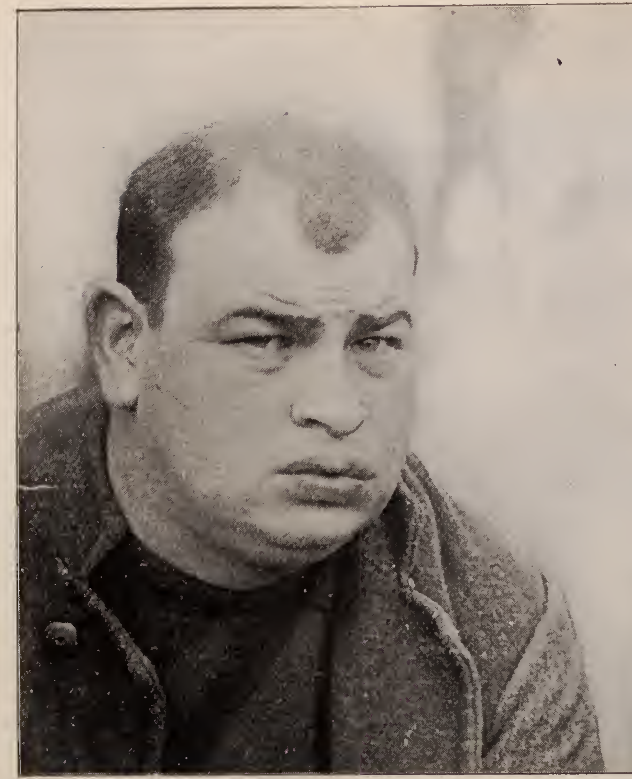
1. Hydrocephalic idiocy.
2. Microcephalic idiocy.
3. Idiocy symptomatic of arrested development of convolutions.
4. Idiocy symptomatic of congenital malformation of the brain (porencephaly, absence of corpus callosum, etc.).
5. Idiocy symptomatic of atrophic sclerosis.
6. Idiocy due to hypertrophic or tuberous sclerosis.
7. Idiocy symptomatic of meningitis or chronic meningo-encephalitis.
8. Idiocy with pachydermic cachexia or myxoedematous idiocy.

Jules Voisin.

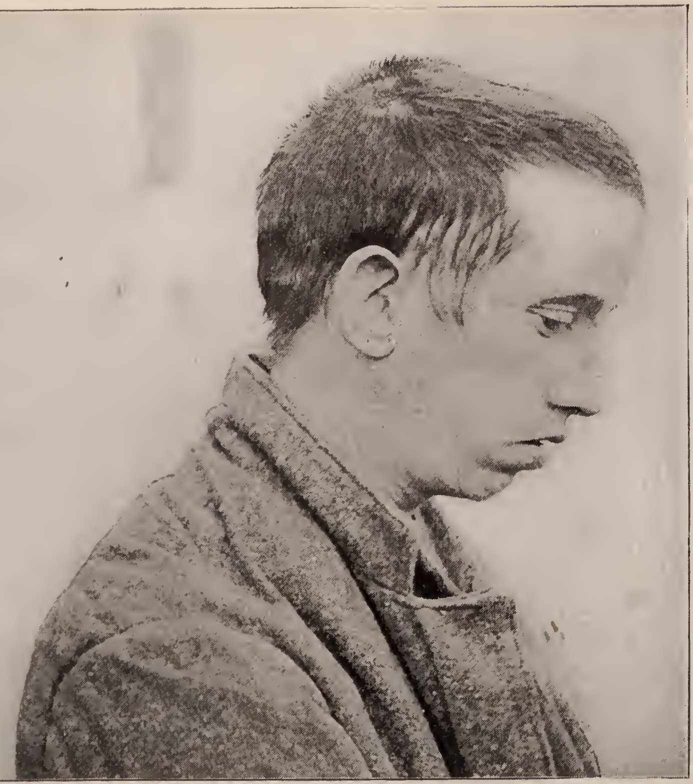
1. Idiocy complete, absolute, congenital or acquired, incurable. Two degrees: (a) anencephalic, and such as have not even the instinct of conservation; (b) such as have the instinct of conservation and certain habitudes.
2. Idiocy incomplete, congenital or acquired, susceptible of amelioration. Cretinism belongs to this category.
3. Imbecility, congenital or acquired, characterized by the rudimentary existence of all of the intellectual, instinctive and moral faculties, by the perversion or instability of these faculties.
4. Mental debility, characterized by feebleness or defect of balance of faculties.

Shuttleworth.

Congenital.
- Microcephalic.
- Hydrocephalic (also non-congenital).
- Scrofulous.
- Sensorial (also non-congenital).
- Primarily neurotic.
- Paralytic (also non-congenital).
- Choreic (also non-congenital).
- (Cretinoid, (a) sporadic, (b) endemic.



Epileptic Idiot.



Imbecile, with Numerous Stigmata such as Extreme Gothic Palate and Most Extraordinary Dolichocephalia.

- Non-congenital.
  - (a.) Developmental.
    - Eclamptic.
    - Epileptic.
    - Syphilitic.
    - Post-febrile (also accidental).
  - (b.) Accidental or acquired.
    - Toxic.
    - Traumatic.
    - Emotional.
    - From mixed causes.

Ireland.

1. Genetous.
2. Microcephalic.
3. Eclamptic.
4. Epileptic.
5. Hydrocephalic.
6. Paralytic.
7. Cretinism.
8. Traumatic.
9. Inflammatory.
10. Idiocy by deprivation.

Felix Voisin makes four categories upon purely psychological and symptomatic grounds; *Dagonet* also divides them into four groups; *Schuele* into six; *Seguin* into three; *Hofbauer* into five; and *Magnan* into four.

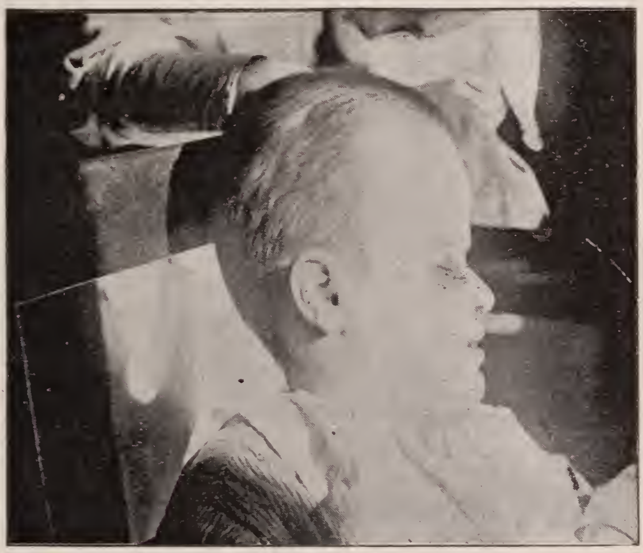
Among these classifications, that of Ireland is the best from the clinical and etiological point of view, but that of Bourneville is the most scientific, since it deals as far as is possible at the present time with pathological conditions. The objections which can reasonably be made to Bourneville's classification are, in the first place, that it is far from easy to group cases of atrophic sclerosis, tuberous sclerosis, microcephalus, arrested development of convolutions and meningitis under their appropriate headings during their lifetimes; that a striking and common form, like paralytic idiocy, undoubtedly most often due to meningeal hemorrhage, is difficult to place here; and that idiocy by deprivation (or sensorial idiocy) has no place at all in his categories.

I would suggest, therefore, as a better working arrangement the following, which does not assume to be a classification in the proper sense of the term, but a mere grouping of cases from a clinical and pathological point of view:

1. Hydrocephalic idiocy.
2. Microcephalic idiocy.

3. Paralytic idiocy.
4. Epileptic idiocy.
5. Traumatic idiocy.
6. Sensorial idiocy.
7. Meningitic idiocy.
8. Myxoedematous idiocy.
9. Idiot savants.

Most of these forms may be congenital or acquired, and in all classes there will be great variations in the degree of mental impairment, which variations may be expressed by the use of the terms *idiocy* for the lowest degree of mental function; *imbecility* for a higher degree, and *feeble-mindedness* for the cases in which the psychic faculties have their highest development. There is some confusion in literature as to the exact limitation and application of these degrees. Sollier has made an attempt to distinguish idiocy and imbecility, but his definition of imbecility is not tenable, in the opinion of the writer, for he describes a certain small class of imbeciles as representative of the whole order. It is to be remembered that in each of these degrees we have many gradations, and the entire series, from absolute idiocy to a normal state, leads up by progressive stages through various types of idiocy, several steps of



PROFOUND HYDROCEPHALIC IDIOCY.

imbecility, and numerous shades of feeble-mindedness, until the borderland between the highest degenerate and the normal individual is almost indefinable.

The highest group includes a rather well-defined class of feeble-minded, the "backward children," the *enfants arrièrés* of the French, the *tardivi* of the Italians, the *geistig-zuruckgebliebene* of the Germans. The difficulty is not so much in the delimitation of this class as in the separation of the group of idiots and imbeciles. It is easy to make the classification on seeing the cases, but to convey to others the differentiation by description is far from being so, because of the many features, physical, motor and mental, which are concerned in such division. The writer, while employing the term idiocy often to include all of these degrees, would define the idiot proper as an individual able to give little care to his person or none at all, incapable of intelligent communication, barely able to express his material wants, most awkward and ungainly in his movements, if he move at all, and presenting marked evidence in his lack of expression, apathetic attitudes and physical stigmata of degeneration, of the profound stunting of his mental and physical development. On the other hand, the imbecile is able to care for his person and dress, attend to his physical wants, comprehend fairly what is said to him, carry out orders more or less intelligently, often able to speak well (though sometimes speech may be impossible to a very intelligent imbecile) ; if not paralyzed, he has good use of all of his muscles ; he is not destitute of expression, though the expression may vary from an evil, mischievous, cunning cast of countenance to one of rollicking good nature ; there are fewer stigmata of degeneration in this class than among idiots.

PHIMOSIS AND DEFORMITY OF THE HAND.

By Julius Morgenstern, A. B., M. D.,
Formerly House Physician at St. Mark's Hospital.

THERE were some interesting features about this case, which, though the treatment was simple, were sufficiently important to decide the future welfare of the patient.

A few words about the accouchement itself. Mrs. ——, aged 33, Hungarian, multipara, very stout, was confined on May 8. There was an atonic condition of the uterus, and the liquor amniæ had already drained away when I was called in attendance. The cervix was fully dilated, and the head, which presented in R. O. A., made no advance. Forceps were necessary for extraction. The placenta was completely adherent, and manual extraction was necessary.

The babe, a large male one, was somewhat cyanosed when born, but soon recovered and cried lustily to show his fond appreciation of his entrance into this world.

The interesting features of the case were :

(1). Early the next morning I was hastily summoned. The information was given that the babe was crying too much, and he would suddenly draw up his legs and scream painfully. The babe had passed no urine. On examination of the penis, phimosis, with a somewhat elongated prepuce and with a pin-pointed opening, was found. The scrotum was reddened and moistened from the dribbling of urine, showing there was incontinence as well as retention of urine.

The prepuce was slightly raised, and held above and below by the index finger and thumb of the left hand. The dull end of a small sound was inserted with the right hand into the small preputial opening, and gradually moved from side to side so as to distend the opening. This was persisted in for a little while. Then the small sound was passed all around between glans penis and praeputium to break up any existing adhesions. The sound was now removed and retraction of the prepuce performed. As the opening of the prepuce was now larger, a good deal had been accomplished. Some calcareous concretions from the urine salts that had formed between the opening of the prepuce and the meatus urinarius were removed with the small sound.

The babe passed urine without any pain in a few hours.

Small and repeated doses of spts. nitros. aeth. were given for a few days, and a mild boric acid solution was used locally. Daily retraction of the prepuce was done, until May 17, when circumcision was performed, as the babe was from Jewish parents. Of course, circumcision relieved the babe of the troublesome portion of his prepuce.

(2). On the morning of May 9 it was seen that the babe could not raise his right hand. A deformity was noticed. The dorsal surface of the hand was twisted inward and nearly parallel to the surface of the body, and the palmar surface was directed outward. The twisting could be plainly felt at the wrist joint, so that the hand made a decided angle with the forearm. The inward twisting at the wrist joint caused some inward and downward rotation of the bones of the forearm and shoulder. The right shoulder joint was lower than the left. There was no muscular atrophy, nor loss of sensation in the whole right upper extremity. This deformity of the hand was due to the position it lay in utero.

The hand was easily rotated into its normal position at the wrist joint. It was held in this position by the mother. Absorbent cotton was placed all around the wrist joint, and two small pieces of wood from a cigar box were covered with a small strip of bandage and were placed anteriorly and posteriorly, embracing also small portions of the hand and forearm. A simple bandage over the whole completed the dressing. The hand was placed in its corrected position across the chest and held there by a few diaper pins passing through the dress at the sleeve and chest. These diaper pins were removed when the babe was bathed, then reapplied.

In a week's time the dressing was removed, and all trace of deformity was absent. This treatment was simple enough, but it was done at a time when a deformity can be easily corrected. Surely this would not have been the result had the matter been delayed a few months or years.

There can be no doubt that the deformity was secondary to a pressure paralysis at birth, and by keeping the contractions corrected the danger of their becoming permanent was avoided.

* * *

TWO CASES OF TETANY.

By F. U. Ferguson, M. D.,
Gallitzin, Pa.

On December 12, 1893, I was called to M., aged ten months, a large, well developed, healthy-looking boy. The day before the mother noticed that he would take nothing in his hands. Intermittent pain was present, and he had spells of crying. The noise of the trains, particularly the whistling of the engines, would cause him to start, although he had not been annoyed before.

The muscles of all the extremities had typical tonic contractions. The thumbs were adducted into the palms. The wrist and first phalanges were flexed. The second and terminal phalanges were extended. The forearms were pronated and the arms drawn toward the chest. The toes were bent down and adducted ; the soles of the feet hollow and the backs arched as in equinus. The backs of the hands and feet were slightly tumid ; the veins prominent.

Trousseau's test was not thought of at the time. The parents could see no intermission, but I am sure the contractions were firmer during pain. The urine was scanty but contained no albumin. A coryza was present and some fever, but the thermometer was not used.

Three teeth were through and one upper incisor was cut during the sickness.

I prescribed 1¼ grains of chloral and 2 grains of potassium bromide, every two hours.

December 13th, 9 a. m.—The child was resting better, but the contractions were still firm. At 3 p. m., seeing no change, I examined the prepuce and found it adherent. After the glans penis was shelled out and a quantity of smegma removed, the parts were anointed with rose water ointment. The first prescription was then stopped and small doses of belladonna were given.

December 14th.—The contractions were weaker and in twenty-four hours they disappeared. Two weeks later the disease had not returned.

I did not attend the child afterwards, but I learned that he had frequent attacks for several months, and that circumcision was performed without effect. When he appeared on the street last summer I noticed a waddling walk ; the joints seemed heavy, the nose was flat and the lips thick.

Case II. On March 7, 1896, I was called to see a boy, eighteen months old. He was bottle-fed and was suffering with a severe attack of vomiting and diarrhœa. After two or three days' illness he improved and in a week was well.

On the 14th he had contractions of the hands and feet, which were similar to those described in Case I. In addition, however, the chin was pulled down on the sternum, giving it a "double" appearance. The orbicularis oris and the inferior maxillary muscles were also affected, making a "verge of tears"—old womanish expression. The eyes looked up like one trying to look over their glasses. Pressure on the median nerve made no difference.

The temperature was 101°, the respiration rapid. He was fretful, slept lightly, and cried when an effort was made to overcome the contractions.

The treatment consisted of easily digested food; cod liver oil inunctions over the whole body twice daily; two grains each of chloral and potassium bromide with one minim of tincture of belladonna, every two hours. It was three days before improvement was noticed, when the contractions became gradually weaker and passed off. In a week he was able to pick up his food and toys, and by the first of April he could walk.

Society Report.

NEW YORK ACADEMY OF MEDICINE, SECTION ON PEDIATRICS.

Stated Meeting, May 14, 1896.

Vaccination Eruption.—DR. ROBERT S. ADAMS presented two boys who had been vaccinated about ten days ago, and both of whom had developed a marked eruption. As the first vaccination did not seem to have been successful, both boys had been vaccinated again, and now both vaccinations in these children were "taking."

Microcephalus.—DR. SARA WELT-KAKELS presented a little baby showing well marked microcephalus. The parents had been married five years. This child, who was born at full term, was not asphyxiated at birth. It had slight convulsions when fourteen days old. For months after this the child had been nursed, and had done well. Examination showed a nearly normally developed body, but a small head. The sutures were well ossified ; the organs of the thorax and abdomen were normal ; vision was good, and the child could stand, but not walk. The diameters of the head were as follows : The fronto-occipital diameter, normally 11¾ cm., was 10 cm.; the bi-parietal, normally 9¾, was 7½ cm. ; the bi-temporal was 8 cm.—the normal measurement ; the mento-occipital was 13½ instead of 14 cm., and the occipito-bregmatic 8¾ instead of 9½ cm. The circumference of the head was 32½ instead of 34½ cm. The speaker said that, according to Virchow, microcephalus might result from premature ossification of the sutures. Sachs, in his book, had called attention to the fact that many of these cases were the result of haemorrhage and compression of the cortex. In the patient just presented, she hardly thought any operative procedure would be justifiable.

Congenital Syphilis and Tubercular Bone Disease.—DR. W. L. STOWELL presented a child, two years of age, who when first seen, five months ago, had dactylitis on both hands and both feet, and also a curvature of the spine in the lower dorsal region. It had been fairly well nourished at birth, but after a few weeks had begun to waste away. A few months later, a papular and pustular eruption had developed on the body. Later on, there was an ischio-rectal abscess and various furuncles and abscesses. The mother had lost several children in infancy from marasmus. For the last three months the father had had a severe cough and hæmorrhages from the lungs, although the physical signs of phthisis were not very marked. A specific history on either side was lacking. Examination of the blood had indicated tubercular infection. Believing that the case was one of double infection, the child had been treated by iron, hypophosphites and various malt preparations, together with mercurial inunctions and mixed treatment. However, during the four months that the child had been under observation there had been but little change of any kind in the child.

Dr. Robert W. Taylor said that in speaking of a case of this kind one should endeavor to start out with a definite history of syphilis. He felt quite sure that in this case it would be found that some years back the father had contracted syphilis, for it was well known that the mother might escape infection, and yet the child exhibit the disease. Assuming this to be the case in the present instance, we had before us an example of a condition now attracting considerable attention. Since bacteriology had thrown so much light on medicine, we knew that there was an interlocking of pathological processes. One of the most common of these combinations is the engrafting of tuberculosis on a syphilitic soil. The syphilitic individual seemed to furnish a very fertile soil for the development of tuberculosis. Nearly thirty years ago he had studied many of these cases very carefully, and he had wondered why some were cured by mercurials and others were not; and also why some broke down into ulceration and ran a tedious course, while others went on to resolution. In recent years several important contributions to this subject had appeared, one of the most notable of these being by Hochsinger. It was possible that in some of these cases the two infections were transmitted by inheritance.

Dr. N. M. Shaffer said that for years he had been brought in daily contact with tuberculous children, and yet he had been impressed with the rarity with which he had met with this combination of syphilis and tuberculosis. In the case presented the tubercular lesions were unusually well marked. It was often very difficult to distinguish between lesions due to syphilis, those due to tuberculosis and those resulting from malignant disease. In his own experience, the so-called "clubbed fingers," while bordering on a dactylitis, he had been accustomed to look upon as tubercular in its nature, rather than syphilitic. He had found that some of the worst cases of joint disease were those in which syphilis appeared to have been engrafted upon a tuberculosis.

Convulsive Tic in Children.—DR. CHARLES L. DANA read a paper with this title. He said that he had been much interested for some time past in the spasmodic disorders of children. He thought there was still much misconception regarding the true nature of many of them. He believed that all the functional neuroses of childhood (not infancy) could be classified under four heads, viz.: (1) Chorea, (2) spasmodic tics, (3) hysteria and (4) epilepsy. It was his object in this paper to show the relationship between two of these groups particularly. He was of the opinion that there were many physicians who did not know technically what spasmodic tic was. It consists of quick spasms of certain muscles or groups, several rapid contractions succeeding each other, after which there is a period of rest. Eventually this clonic spasm might become tonic. In most forms of the disorder there was a tendency to become localized in certain nerves, as in the facial, or in some special twig, as the phrenic, or a branch of the zygomatic or of the vagus. They might take a wider range, producing quick, violent movements of the whole body. Between this form—spasmodic tic—and ordinary chorea minor there were many milder spasms, known as "habit choreas." These were the ordinary twitchings of the face or shoulders which occur irregularly in children, and are closely allied to true chorea. When these become localized in a certain group of muscles it might be considered a true spasmodic tic, and in these cases the treatment for chorea he had found had but little effect. In 95 per cent. of the cases of chorea minor recovery took place, but it might degenerate in several different directions. For instance, a girl of twenty, when five years of age, had an attack of Sydenham's chorea, which ran its ordinary course, and was repeated at intervals of a few years. After the third attack it seized upon the larynx. From sixteen to eighteen years of age it was almost constantly present. The girl was neurasthenic and weak. In another case, that of a boy of twelve years, choreic twitchings had begun in the right side of the face, then in the neck, and then in the arm, when he was five years of age. There was no known cause for this. When first seen by the speaker the boy appeared intelligent and well nourished, and there was no evidence of cardiac or other organic disease. He had choreic movements of the hand, and the facial muscles were also involved. In addition to the unilateral choreic movements, the neck muscles were at times affected with twitchings or with tonic spasms, which turn the head to the left side—spasmodic torticollis. The speaker said that in his own experience there had been two other cases of a similar character. Thus, a boy of ten years had had a severe attack of rheumatism, and at the age of fourteen an attack of what was apparently ordinary chorea. These were repeated every two or three years, but during the intervals he had not been in perfect health. With each return of the chorea there was involvement of other muscles until finally he developed wry-neck and opisthotonos. He ultimately developed a violent form of chorea and died of exhaustion. At the autopsy there was found a very marked meningeal thickening at the convexity of tne brain and degenerative changes in the outer layer of the pyramidal cells of the cortex, especially those involving the legs, trunk and arms. A girl, thirteen years of age, was attacked with sudden pain in the left side, and two or three days later she began to have choreic movements of the eye muscles, more particularly on the left side. When seen by him, three years later, there were choreiform movements, and she presented the appearance of a person suffering from chronic torticollis. These cases certainly show that at times the ordinary chorea minor, instead of disappearing, fastened itself upon a particular group of muscles, resulting in a spasmodic tic. This might be a tic involving the larynx, the phrenic nerve and diaphragm, or it might involve the facial muscles alone. In other cases this chorea degenerated into a tonic form of spasm, leaving the patient with some variety of torticollis, or some general tonic disorder. It had seemed to him that the following view could be taken of the pathology of these disorders: Chorea is an irritative disease resulting from some poison or infection, and is located in the cortex of the brain. On the other hand, the spasmodic tics are degenerative diseases, secondary, in some cases, to an inflammatory neurosis like chorea, or developing independently like other degenerative neuroses.

There were also special varieties of tic, such as those in which the patient suddenly uttered irrelevant or improper words. In most instances these tics began with peculiar irregular movements suggestive of chorea, but of a more co-ordinate character. This form of tic might be called a psycho-motor spasm. Henoch stated about three years ago that the cases that he had formerly described as "electric chorea" were really examples of this spasmodic tic. Neither chorea nor spasmodic tics, in the speaker's opinion, had any special relation to epilepsy.

Dr. William H. Thompson said that this subject was not only a very interesting one, but its relations were wide and far-reaching. He fully agreed with the reader of the paper that some of these cases were distinctly the sequelae of chorea, and that they would last through life with such a starting point. He recalled the case of a lady, sixty-three years of age, who was troubled with frequent twitchings of some of the muscles of the face, particularly of the eyelids. This affection dated back to an attack of chorea in childhood. It seemed to him that there was little doubt of the relation between chorea and rheumatism, and in this case there was a history of rheumatism without chorea, followed by a habit which lasted for the rest of the individual's life. An interesting case had come under his observation—that of a girl who would emit a peculiar sound during inspiration, at the rate of twenty times a minute. She was then about twelve years of age. There was a cardiac lesion, and also a history of antecedent chorea. The starting point might be chorea or something else, but in every case the condition must be considered as a habit, and upon the full recognition of this fact depended our success in treatment. Except in recent cases of chorea, medicines were of little or no value. The old cases no longer show chorea, but a *habit*. An inquiry into this point would show that our entire nervous life was regulated by habit, and this was particularly true of that portion which dealt with the muscles. We were quite unconscious of the fact that every muscle of the body was thrown into action by habitual central impressions. The movements of the muscles were constantly guided and regulated by the relations to space. It was for this reason that one found it difficult to balance the body when walking near the edge of a precipice. The phenomena of aphasia showed that one particular convolution of the brain had acquired the highest function—that of speech. Why should this be in the left brain? It was now believed that the left brain had taken up the function of speech because the right hand had first been educated by habit to take up the gestures which were the first efforts at speech. In his opinion stuttering was a true convulsive tic. It often had a choreic antecedent, and was more common in rheumatic families. These observations indicated that habits could be permanently acquired. These convulsive tics, in his opinion, were nothing but habits. In the treatment of such a disorder the first step should be to send the child away from home—former companions and surroundings—so as to endeavor as far as possible to break up habits. There was another important element in such a step in the case of children, i. e., when sent among strangers they would make a special effort to avoid these convulsive movements. For a long time he had recommended in the treatment of chorea, stuttering and convulsive tic of children, that they should be taught dancing. He knew of nothing which so developed the co-ordinating functions of the body as riding a bicycle, and he hoped to put this idea to a practical test in the near future.

Dr. Edward D. Fisher said that the ordinary chorea of children ran a definite course, but there were many spasmodic disorders in children which might be included under the general term of "habit chorea." Many cases of convulsive tic seemed to come under the latter head. He believed that habit chorea and convulsive tic should be taken out from the class of true choreas. As to the seat of the disease, he thought he must place it in the brain, and not as Weir Mitchell seemed to think, that there were some cases of "spinal chorea." The so-called hereditary chorea was a confirmation of this view as to the seat of the disease. In many cases of defect of the brain, one found a form of chorea. He did not think there was any connection, however, between rheumatism and either habit chorea or convulsive tic, or the choreiform diseases associated with degeneration of the brain. He agreed with the reader of the paper that the spasmodic disorders under discussion were not allied to epilepsy. In the treatment of habit chorea, he certainly was in favor of teaching co-ordination after the plan just outlined by the last speaker. Like writer's cramp, these disorders were psychical, and were best treated by proper muscular exercises. Thus, in writer's cramp, an excellent method of treatment was the frequent squeezing of a rubber ball in the palm of the hand.

Dr. Joseph Collins said regarding whether convulsive tic is a sequela of chorea or not, that his experience would not lead him to think that it was often a sequela of chorea. According to the reader of the paper, co-ordinative tic was not very common, but this had not been his own experience. He was inclined to believe that habit spasm and co-ordinative tic were two different conditions. If co-ordinative tic were a disease, it was not a habit spasm. He had not been able to convince himself that habits degenerated into disease. He believed that co-ordinative tic was a disease, and was not ordinarily a habit spasm. He did not think the reader of the paper had drawn the line sufficiently sharply between compulsory movements and ordinary tic. He recalled the case of a very intelligent young man who was compelled at short intervals to raise his eyes toward the horizon. This case did not partake of the nature of a habit, or of a degenerative disease. Dr. Collins said that he was a practical bicyclist, and he was positive that bicycle riding did not require any more co-ordination than ordinary walking; hence he did not believe it would do any good in the treatment of these disorders.

Dr. Stowell disagreed with the last speaker regarding the statement that bicycle riding did not require much co-ordination. If this were the case, it would not be necessary to learn to ride a bicycle. All persons at one time had to be taught to walk.

Dr. Dana, in closing the discussion, said that the term "convulsive tic" was probably not a good one, for it did not have a universally accepted and well defined meaning. This was due solely to our ignorance. It had seemed to him well to bring out the fact that there is such a disorder as convulsive tic, because he felt positive that many experienced physicians did not know that there was such a condition. The twitching of torticollis and the psycho motor tic described by Dr. Collins, he thought, at present were best considered under one broad classification. So far as the tics represented any pathological process he must insist that they represented a degenerative one. Slightly damaged nerve cells were likely to be left after chorea, and under such circumstances these tics might develop.

Abstracts.

CASUISTIC OF THE SERUM THERAPY OF DIPHTHERIA.

Dr. Vionessel (*Münch, Med. Wochenshrift, Vol. 43, No. 19*) says that, nearly all reports on diphtheria antitoxin which have been published until now claim that undoubtedly the latter has the property to cure a percentage of cases of diphtheria which was formerly unknown, and that no serious results could be attributed to the same. In view of this fact, the sudden death of the child of a physician, announced lately, which followed directly after an injection of the serum, and was attributed to the latter, must have had a very depressing effect, not only on the physicians at large, but more so on the general public. Dr. V., therefore, reports the following statistics of his own observation :

Since the beginning of the serum therapy, from the end of October, 1894, to the end of April, 1896, he has treated at the Burger Hospital at Coblenz 158 cases of diphtheria, of which 150 were treated with antitoxin (Behring's and Schering's). Eight were not injected, 3 of these light cases, for control purposes, and 5 were already hopeless, and died within a few hours after admission ; 3 of these had to be tracheotomized.

The first child that was injected, Gretchen W., aet. 4 years, had been ill for two days with hoarseness and gradually increasing dyspnoea, died in spite of tracheotomy and three injections of Behring's No. 1 and No. 2 serum, within 72 hours of descending croup. Autopsy showed diphtheritic membrane extending into the minutest bronchioles.

The results of further inoculations, however, were of a much more encouraging nature, for of 150 cases so treated 131, or 87.3 per cent., were cured, and only 19 or 12.7 per cent., died. It is to be remarked that amongst these 150 cases, 64 were suffering from very severe forms of laryngeal diphtheria, of which number 5 were tracheotomized and inoculated in a moribund condition, to give them all chances possible for their recovery. Deducting these, a mortality of only 9.3 per cent remains. Of these cases, 7 were under 1 year of age. Two, or 28.6 per cent., died. A boy, aged 8 months, suffering from nasal and throat diphtheria, could not be sufficiently nourished; a girl, 10 months old, died ten days after tracheotomy with pneumonia. Of the remaining five cases, three, whose ages were respectively 8, 9 and 10 months, had to be tracheotomized, and were discharged cured after 11, 12 and 18 days. The last two, aged respectively 2 and 9 months, passed through a severe bronchitis and beginning stenosis of the larynx. Between the ages of 1 and 5 years there were 98, of which 48, or 14.3 per cent., died; between 6 and 10 years, 25, with a mortality of 3, or 12 per cent.; and over 10 years, 20 cases, with no death. The success of the method was greatest where an early injection was made.

A NOTE REGARDING THE TECHNIQUE OF INTUBATION.

J. Trumpp (*Munch. Med. Wochenschr. Vol. 43, No. 17*) calls attention to the fact that the method of extracting the tube after intubation by means of O'Dwyer's extractor is occasionally exceedingly difficult, and needs the services of a person well skilled in the use of the extractor, and one possessing great self-command and certainty. But it may happen even to the most skillful intubator, to find a case where extubation cannot be accomplished rapidly enough. Should the tube be somewhat small it may sink down deeply into the larynx, pressing on the true vocal chords. In this position the passing of the instrument for removal is very difficult, and there is great danger of forcing the tube further into the larynx. The following case happened to author, and led him to try a new way of removing the tube. In January of this year, T., wishing to extubate, found the tube unusually deep in the larynx, and, through repeated attempts to remove the tube, it was forced down further and further; at the same time the tube had turned on its axis somewhat, and it was thought that a tracheotomy would become necessary. In this painful situation it occurred to the operator that Prof. Escherich had at one time expressed his conviction that the tube could probably be removed by means of external pressure on the larynx. The thumb was placed on the trachea, just beneath the cricothyroid cartilage, where the lower end of the tube was distinctly felt. On exerting a quick pressure, which caused the child to cough, the tube could be taken out of the child's mouth between its teeth. After this case the author has always used this method of removing the tube, and never once failed with it.

The following is the manner of doing this little operation: The physician places himself in front of the child, which is held in the lap of the nurse (the expression is much more difficult when the surgeon stands behind the child and uses the other fingers for exerting pressure), and places one or both thumbs over the trachea, just below the cricoid cartilage, while the other fingers encircle the neck. In this manner it is not unusual to feel the lower end of the tube. Now exert a moderately strong pressure backward and upward somewhat slanting. The choking and cough paroxysm, which follows, usually expels the tube into the mouth, where the child holds it with his teeth or tongue. If the pressure is made strong enough, the tube may be expelled from the mouth in a semi-circle. There have never been any accidents observed with this method, and if the operation is done with any moderate degree of care, there can be none.

HEART-FAILURE IN CHILDREN DURING INFECTIOUS DISEASES.

Sevestre (*Journ. de Clin. et de Therap. Inf., No. i, 1895*) says that it is well known that in the infectious diseases of childhood there is frequently a weakness of the heart present of a greater or less degree, particularly in diphtheria, influenza, typhoid fever, etc. More seldom is it present in pneumonia, which seems clearly to prove the influence of the infection in producing this complication. Most certainly a change in the muscular tissue of the heart, an infectious myocarditis plays an important part here, but at the same time a lowering of arterial tension makes its influence felt. Therefore, in the treatment of infectious diseases, not only should the infection itself be fought, by means of internal antiseptics, promotion of the excretion of toxines, cold baths and tonics, but the heart must also be stimulated. This part of the treatment can best be achieved by the use of caffein. S. is partial to its use before giving the cold baths; furthermore, he employs it as soon as a full, frequent pulse is observed, giving evidence of a weakened heart. The doses recommended are, to a child of five years of age, hypodermically, the following :

℞	Caffein,	2.00.
	Sod. benzoic,	.04.
	Aquæ destad,	10.00.

1 c. cm. to be given two or three times, or else :

℞	Caffein et sod. benzoic, āā	1.60.
	Vanillin,	.05.
	Syrup,	50.00.
	Rhum opt.,	10.00.
	Aquæ dertill,	60.00.

Mix. Sig. One teaspoonful for a dose.

For raising the arterial tension, S. uses injections of salt solution 20 grm. of a 0.7 per cent. solution, is given twice or three times a day, with or without the caffein.

A CASE OF DIPHTHERIA OF THE SKIN.

M. Flesch (*Berl. Klin. Wochenschrift—Centralbl. Innere Medicin, Vol. 17, No. 21*) reports the case of a child who was scalded with boiling water, slightly on the neck, and more severely on the upper part of his body. After eight days the superficial burn of the neck had nearly healed, and was covered with new epithelium. The mother of the child imprinted a kiss on the spot. Next day the child suffered from an inflammation of this site, and three days following the kiss, the spot which had been touched showed changes which gave both clinical and bacteriological evidence of true diphtheria. The child's throat (patient had been meanwhile injected with 200 units Behring's antitoxin) remained free from deposit. The skin affection healed in a few days.

It is noteworthy in this case that the diphtheritic patch appeared on a seemingly normal skin from the kiss of a seemingly healthy mother, although the latter must have been already infected. Furthermore, it is strange that the child's throat remained normal. How much of this was due to the serum injection is an open question, as also that the diphtheritic process, which started on a surface covered with recent epithelium, should have remained stationary, while the other wounds were still in a state of granulation.

PEDIATRICS

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Original Articles.

TREATMENT OF RINGWORM OF THE SCALP IN INSTITUTIONS.*

By CHARLES W. ALLEN, M. D.,
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I MUST express to you the gratification I feel in being privileged, through the courtesy of your worthy presiding officer, to participate in the discussion which he has so ably and instructively opened upon the interesting topic of Ringworm of the Scalp.

Since the subject will be approached from many different sides by the various speakers, I shall endeavor to keep well within prescribed bounds in giving you my views upon the proper management of trichophytosis capitis as it occurs among the inmates of various institutions in which large numbers of children are gathered together.

The management of trichophytosis capitis in schools, asylums, hospitals, or any other institutions in which children are received and mingle with others, must of necessity differ from the treatment of a single case, or even of a number of cases, in the family.

In the first place, we have the protection of other inmates to claim our most careful consideration, and therefore facilities must be provided for immediate and perfect isolation. Secondly, those who have almost recovered must be kept apart from the new cases, in which the disease is more acute, more active and more likely to be transmitted. It is not sufficient for prompt eradication of an epidemic of ringworm from an institution that the cases of the disease be kept by themselves. Some are more susceptible of rapid cure than others, but unless they are removed at a time when a cure seems to have been effected, they run the danger of becoming contaminated anew. Nor are we justified in returning these apparently cured cases to their former surroundings amid healthy children until they have undergone a period of probation in a non-infected place of isolation and observation.

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*Read before the American Medical Association in Atlanta, Ga., May, 1896.

In such institutions as exist for the reception and care of ringworm cases in common with other affections of childhood—that is, where they are admitted as ringworm cases, or as medical or surgical cases having ringworm incidentally, or in institutions established for the reception of sick and well alike, the former being kept as inmates after they are cured and have ceased to be patients—the conditions are more complicated, and the situation is correspondingly beset with difficulties. We must consider, then, the question of management as it affects :

1. The day-school and factory.
2. The boarding-school, home and asylum.
3. The children's hospital proper.

The discovery of scalp ringworm in a pupil of a public or private day-school, or in an employee of a factory or place of business where numbers of young people are employed, should be sufficient to exclude such a subject from further association with his companions until a thorough cure has been effected and sufficient time has elapsed to insure its permanency. The same course should be pursued in boarding-schools, homes and asylums ; but here, instead of sending the patient home, where the parents are expected to take the necessary measures to bring about rapid cure, it often becomes necessary to provide the proper isolation and hospital treatment. Few boarding-schools receive children at an age when they are so likely to contract and disseminate this disease. Orphan asylums, on the contrary, present all the most favoring conditions for the development of epidemic outbreaks. Children of all ages and states of health are often received, and contagious skin diseases do not debar them from admission.

Every infant asylum, at least, should therefore be provided with proper quarters for the isolation of these contagious cases. Such quarters need not be large, for if they are properly made use of no great number of cases to occupy them will ever exist as a result of spreading. They should, however, be arranged in such a way that the cases can be graded according to the various stages, if not in accordance with the different varieties of the disease and kept apart from each other, in a measure at least. A single isolation ward is not sufficient. There must be in addition one or more observation wards for cases apparently cured, where they may be kept apart from the healthy inmates, while at the same time they are removed from the possibility of reinfection.

Such quarters as I have spoken of should be so constructed that they can be readily, rapidly and radically disinfected. The walls, ceilings and floors should be of a material which can at all times be washed and easily kept clean. In institutions long established in which repeated epidemics have occurred over a period of years, it is possible that the quarters used for the care and isolation of patients have become themselves so infested with the fungus growths that they are constant sources of infection, and should no longer be used for such purposes.

In children's hospitals special separate wards should exist for such cases, and trichophytic patients should not mingle with the inmates in general.

To avoid the inadvertent admission of hidden ringworm, the closest scrutiny of the heads of new patients should be a routine practice, since prophylaxis is of paramount importance. An untreated case in an active stage is sufficient to start a rapidly-spreading epidemic.

The rule which prevails in penal institutions of cutting the hair close to the scalp upon admission should be applied with much greater reason to hospitals, asylums and children's institutions generally.

In a large series of examinations for admission to such places, as many as eight ringworm cases have been detected in a hundred applicants, showing how necessary such prophylactic measures are. Some institutions, which stop at no trouble or expense to check an epidemic once started, do practically nothing in the way of preventing such a start. The management takes pride, if not pleasure, in curing disease, but does not pause to realize that it may be engaged in the business of making sickness. The layman, even though a trustee or director of such institutions, has often not been instructed out of his ignorant belief that ringworm is a slight affection.

Another prophylactic measure is the exclusion of the patent clipper from the toilet armamentarium of the institution. I thoroughly believe that this time and skill-saving device has done more for the dissemination of contagious scalp diseases than any other single factor.

I do not doubt in the least that this instrument can be used with little or no danger of spreading the germs, but that it ever is so used in large institutions by the class of attendants to whom the hair-cutting is usually confided, I seriously question.

Even the scissors should be sterilized or disinfected before being used on a second case.

Now, as to the management of the individual cases and their medicinal treatment, let me premise with the statement that so far as I am aware there exists at the present moment no such thing as a rapid cure for chronic ringworm of the scalp.

When I read in the public press that in an institution in New York City where about 375 cases of this disease existed at one time, recently, the physician in charge was accused of incompetency because he did not cure the cases rapidly and stamp out the epidemic at once, I felt pretty confident, from my own past experience, that the institution authorities were not doing their part in supplying adequate facilities for proper isolation, and this has since been shown to have been the case. The further statement was made that so soon as a competent man was put in control the epidemic vanished in a few weeks. Concerning this statement, I knew that either the physician first in charge had been sufficiently competent to bring the cases to the verge of recovery before he was supplanted, or that in reality the epidemic still existed, the cases having simply been put into a sufficiently presentable shape to pass muster, since no means at our command are capable of working so wonderful a transformation within a space of a few weeks. Upon inquiry, I found that the newspaper information contained, as it often does, a large percentage of misinformation, hence I was drawing conclusions from faulty premises. The epidemic had developed gradually. There had always been a few cases, but in March, 1895, it was supposed that they were all cured. Clippers were used indiscriminately for hair cutting. Six months later there were about 360 cases. The physician advised isolation. The management claimed that they could keep the children apart at table and in the dormitories, but not in the play-grounds.

It is not surprising that such isolation resulted in no abatement. It was at this period that a specialist was called in. He, however, wisely refused to undertake the task unless the afflicted were carefully separated from the well. This having been done, energetic treatment was instituted, and after a period of three or four months the epidemic was considered at an end. Such disagreeable experiences could be avoided if managing boards would not insist upon usurping the prerogatives of the medical board and those of the medical attendants, and would devote more attention to the carrying out of the physician's recommendations. It is so much easier and cheaper to isolate a few cases absolutely at first than it is to attempt the same thing after the number has run into the hundreds.

A personal experience embracing a number of children's institutions with which I have been regularly connected and others to which I have been occasionally called at times when ringworm has prevailed has taught me that painstaking supervision and almost daily inspection of the cases is a necessity, no matter how willing and faithful the attendants, dressers, nurses or care-takers may be. They must be taught and retaught not only what to do but when to stop doing it. Over-treatment is often as much to be guarded against as lack of attention. If too much irritation is produced it may cause just those conditions which are favorable to spread and persistence of the disease. Continued irritation may lead to a state of the scalp more difficult to cure than the affection in its original form.

The intelligent command of an experienced physician, with orders changed or modified from day to day to suit the various cases, must be credited with a large share of the success when a campaign against this enemy results in short and decisive victory. Besides the form of medication to be chosen and the mode and duration of its application there comes up the important question of when a patient can be taken from among the ringworm cases and placed in the observation ward or intermediary quarantine, and the still more important one of when it can safely be permitted to rejoin its healthy companions.

The relative value of the multitude of drugs which have at one time or another been advocated is not always readily determined because of the very great difference in behavior of different cases under any treatment. In estimating their worth, too, one is apt to lose sight of the condition of the patient; one patient furnishing by reason perhaps of a strumous state a soil which the fungus is most loath to quit, while another is in such a state of general good health that the trichophyton seems incapable of securing a lasting foothold.

I do not mean to say that apparently healthy children exposed to the contagion will wholly escape. There is, however, something which permits some to escape most lightly, while infection from the same source and caused by the same variety of trichophyton produces its most severe effects in others. There must too be some quality of soil in the infant as in the adult which is unsuitable for the fungus' growth. If this quality could be determined and supplied, by diet or otherwise, children of the ring-worm age they too might have immune. Strumous appearing, pale, lymphatic, poorly nourished children would surely seem to present a condition of scalp most favorable to rapid spread, and these should surely receive such internal remedies as cod liver oil and some of the iodine preparations.

I would not go so far as some of our homeopathic brothers who advocate exclusive internal treatment, but I believe I have seen good results from diet and internal medication, and I always advise keeping these children as much as possible in the open air and sunlight, believing that indoor life, especially if the rooms are dingy, greatly favors rapid growth of this as it does of other moulds.

Again, the form of local treatment to be adopted varies somewhat according as the ringworm is disseminated or diffuse, i. e., in one or more large patches, or perhaps occurring in numerous small spots.

In any event the hair is cut short with barbers' shears or the scalp is shaved. This is necessary for girls as well as boys in institution life, since it not only facilitates treatment but permits of the necessary observation and oversight. The scalp is then best washed with bichloride, and, if open wounds are absent, such a solution as the following can be employed : Bichloride, 1 ; alcohol, 100 ; water, 500.

Most of the remedies recommended are parasiticides, and many contain mercury in one form or another. One which we have found to act well at the Randall's Island Infant Asylum has the following composition :

℞	Hydrarg. Bichl.	gr. x.
	Bals. Peru,	ʒ iii.
	Oli. lavandulae,	ʒ i.
	Spt. vini Rect. ad.,	℥ i.

This can naturally be applied to a patch of limited extent only.

Another, which is almost always of marked benefit for a time, is composed of :

℞	Sulphur,	℥ i.
	Hydrarg. ammon,	ʒ iv.
	Bals. Peru,	ʒ iii.
	Lanolin.	
	Vaselin,	āā ℥ ii.

Care must necessarily be exercised in any of these stronger mercurial preparations.

A non-mercurial solution which I introduced at this institution and which had the effect of clearing the surface rapidly of evidences of the disease, was composed of:

Menthol,	gr. 10.
Thymol,	gr. 10.
Chloroform,	♏ xxx.
Water,	℥ i.

Another was:

℞	Hydrarg. nitratis.	
	Ichthyol,	āā ʒ i.
	Collodion,	℥ i.

or

Thymol,	2,
Chloroform,	8,
Ol. Oliv.,	24,

as proposed by Morris.

Another plan somewhat employed was to cover the scalp with a sufficiently large piece of spread mercurial plaster. After securing a certain amount of irritation by these means it is better to withhold entirely such strong remedies and resort for a season to the blandest topics until the inflammation has subsided. Then the same, or, often better, another equally powerful parasiticide remedy is to be reapplied. After various attempts with various methods, naturally used in connection with strict cleanliness, the hair being made short by cutting or shaving, shampooings, antiseptic washes, etc., I have come to the conclusion—which is one also reached by a number of observers—that chrysarobin is to-day the best drug at our command for securing an efficient and prompt effect. It has its disadvantages, which are well known. It is uncleanly both for the patient and for bed linen and clothing. It is liable to produce dermatitis and staining of the skin, and if care is not exercised it may affect the eyes disagreeably. Still it is the best drug we possess, and in employing it recently in about ninety cases I was enabled to obviate most of the disagreeable effects by exercising due care, first in its application, and secondly in preventing its being spread to other parts by the patients themselves through advertent rubbing and distributing it. There are various ways of minimizing this disadvantage by caoutchouc and other caps or head dressings, and the suggestion has been made to fasten such a cap securely over the forehead by means of a rubber or adhesive bandage, and only raise the cap from behind to make application of subsequent dressings. Although my patients wore caps chiefly to protect the pillows, I incorporated the drug in collodion, proportion of one drachm to one or two ounces, and this was painted on over the shaven scalp wherever patches of disease were to be seen, and renewed as often as it became loosened or detached. Perhaps the action is somewhat slower than when ointment is applied, but I could never convince myself that the benefit of shutting off the air, partially at least, from the diseased areas by the collodion was not of decided benefit in itself, because of the well known aerobic nature of the fungus. I will not enter further into the discussion of the merits of particular formulæ, since these questions will be considered by others, but my belief is that occlusion has much to do with the success of any plan. I realize that this is partially effected by certain pommades and plasters, but not so fully as by the collodion occlusive dressing.

Should these cases be epilated?

Yes, if it can be done with proper skill, care and intellgence, and especially if the cases are few and the patches small, but, to start in to epilate several hundred children in whom the disease has manifested itself and secured the upper hand so to speak, the persons charged with the epilation being the ordinary hospital or asylum attendants, is a task much worse than useless.

To become a skillful operator the nurse must be of more than average intelligence and must be especially instructed in the work, so that new foci of disease are not established by the process.

In most institutions the safest plan is probably to cut the hair regularly, say once each week, with barber's shears kept well sharpened and constantly disinfected either by sterilization or by soaking in antiseptic solutions.

Clippers should not be used—for although they may with care be kept clean the probabilities are vastly in favor of their not being. It is probable that the disease has often been spread in asylums and schools by the use of this instrument, which has, I believe, been forbidden in the public institutions in France. Some cases are perhaps better treated if regularly sheared every week, but close clipping usually answers every purpose and the irritation of the hair root is not so marked.

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ADENOID GROWTHS OF THE NASO-PHARYNX.*

By Samuel G. Dabney, M. D.,

Professor of Physiology and Clinical Lecturer on Ophthalmology, Otology and Laryngology in the Hospital College of Medicine ; Member of the Louisville Clinical and Medico-Chirurgical Societies, Louisville, Ky.

THIS little boy, aged 5 years, was brought to us a week ago by his mother for treatment. The symptom that attracted most attention was a profuse nasal discharge. The child is a mouth-breather, is anæmic and poorly nourished. Putting the finger into his mouth and carrying it into the naso-pharynx, I can detect an obstruction, which is soft to the touch. The tumor is not very large, but it interferes with proper breathing and causes a nasal discharge.

I shall pursue the usual treatment in this case and scrape out this growth. The method of operation is as follows : The palate is held forward with a retractor, and a part of the adenoid is removed with a cutting of forceps, and the roof of the naso-pharynx is then scraped with a curette. The operation is usually done under chloroform, but in this case we will operate without it. Much of the growth as it is scraped off is swallowed by the child, or spit out with the blood and debris, very little being removed intact, so that it can be shown.

I desire to speak especially about the manner of holding the child when the operation is done without an anaesthetic. The child is seated on the lap of an assistant, with its arms held down by pinning a towel around the body, its legs are held between the assistant's knees, and a second assistant, standing back of both the child and the first assistant, steadies the patient's head. The palate is now brought forward by the retractor, which is held with the left hand ; the larger portion of the adenoids is cut off with the forceps, and then with the curette the naso-pharynx is thoroughly scraped to remove all remaining portions of the growth. Most of it is swallowed or spit out. I present for your inspection a small piece, which will give you an idea of the character of the growth.

Let me urge upon you the importance of removing adenoid growths of the naso-pharynx. Their bad effects are manifest in the ear—more than half of the ear affections in children are thus caused; in the facial expression, producing the stupid open-mouthed physiognomy so often seen ; in the general health, retarding proper development and increasing the liability to disease of air-passages from the erroneous method of breathing, often in the intelligence, and in many other ways. Early operation should be advised in all cases, unless there is some strong contraindication.

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* Abstract of a Clinical Lecture Delivered April 1, 1896, at the Hospital College of Medicine.

Rapid improvement usually follows removal of adenoid growths, and the operation is very readily and quickly performed, and in most cases is best carried out under an anaesthetic.

HAEMOGLOBINURIA COMPLICATING MUMPS—DIPHTHERIA, *ALIAS* "WORM FEVER."

By W. Longworth Wainwright, M. B., B. S. (London).
Brixworth, Northamptonshire,
Formerly Resident Medical Officer, Evelina Hospital for Sick Children, London.

Haemoglobinuria Complicating Mumps.—I was called in to see a child in the early part of April of the present year, who was suffering, with other members of the family, from mumps. On the third day of the disease profuse hæmoglobinuria occurred and continued for seven days, and then absolutely disappeared. There were at no time any red blood cells in the urine and a very fractional trace of albumin, whereas the urine was like porter. On the eighth day neither albumin nor hæmoglobin were present, and the child has since been perfectly well.

Diphtheria, alias "Worm Fever."—I was asked lately to see a child whose mother informed me that he was suffering from "worm fever," and showed me his throat as a proof of her assertion. The throat was covered with diphtheritic membrane, and a cultivation showed the typical bacilli. No worms had been passed, and, on inquiry as to the origin of the name, I was informed that two years ago there was a great outbreak of similar sore throats, and, as a general rule, the sufferers passed a number of round worms. Two days later the child passed two dead round worms. The diphtheria was cured under antitoxin injections, and the child is quite well. I have since seen two other cases in which the same phenomena were manifested, the worms in each case being dead, which is unusual. I may mention that round worms are extremely prevalent in the district.

INCIPIENT HIP JOINT DISEASE.*

By James B. Bullitt, M. D.,
Clinical Professor of Orthopedic Surgery in the Hospital College of Medicine, Louisville, Ky.

A SHORT history of two cases recently seen, which suggested the paper I shall read this evening on the subject of Incipient Hip Joint Disease, may be of interest :

Case 1. The first case Dr. Cartledge was kind enough to refer to me, a little girl, who had a great many signs of hip joint disease. There was a family history of tuberculosis, and also the history of a fall. At that time there was considerable joint tenderness and restriction of motion. I understand it was from these symptoms mainly that Dr. Cartledge made the diagnosis of hip joint disease. At the time I saw her there was apparently no restriction of motion and very little tenderness about the joint. The child had been kept lying in bed ; there was no atrophy of the limb whatever, and I was inclined to think that she did not have hip joint disease. At my first visit I found the child lying flatly in bed, suffering very little pain. Two weeks later pain had increased, and was more marked than before, and restriction of motion in all directions was more manifest than it had been. I then came to the conclusion that it was, perhaps, a case of incipient hip joint disease. The disease had existed four or five weeks when I first saw the case. There was certainly a doubt as to the diagnosis. The parents were infected with the osteopathic fever, and have taken the child to Kirksville, Mo., where, if the disease be not hip joint disease, it is quite possible she will be cured.

Case 2. The second case I was asked to see by Dr. W. C. Dugan. The child had a good family history, no history of tuberculosis that could be elicited. The boy had a history of a fall. Of course, these histories are always to be taken *cum grano salis*, and are seldom to be considered as authentic. However, this boy had some marked symptoms of hip joint disease. There was joint tenderness and restriction of motion. Dr. Dugan's diagnosis was hip joint disease. He was sent home and put to bed, and two or three weeks afterward I saw the little fellow. At the time I saw him there was practically no atrophy of the limb and no tenderness about the joint, which led me to believe that the child was not suffering from hip joint disease, but had suffered a strain, as there was a history of slight local injury; and this had been cured by rest in bed. Dr. Dugan has since seen the patient, and has come to the same conclusion.

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* Read before the Louisville Surgical Society.

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The title of the paper is meant to designate the beginning, early stage of coxitis tuberculosa, the ordinary hip joint disease now universally recognized as being of tuberculous nature. In venturing to call the attention of this Society somewhat briefly to this disease, I can make no claim to anything either original or new; nor do I propose to discuss at all the treatment of hip disease. I wish to emphasize simply the importance and difficulty of making an early diagnosis, and further to discuss the prognosis, as regards length of time and functional results in such cases as come at the earliest possible moment under judicious and skillful surgical treatment. Brief consideration of the etiology and pathology of tuberculous coxitis is necessary to proper conclusions regarding these two points.

The relation the tubercle bacillus bears to the various tuberculous processes affecting the animal body, including osseous disease, has been so definitely and conclusively demonstrated that it is not worth while to make more than mention of it here. The etiological relationship of heredity and so-called "acquired diathesis" is matter of more concern to us.

As in all tuberculous diseases, so here family history plays an important role, as in a very large proportion of cases the history of tuberculosis in other members of the family can be elicited. Gibney lays great stress on what he has termed the "acquired diathesis." By this he means to designate bad surroundings, insufficient food, exhausting diseases, and the like, which seem to work in exactly the same way as heredity, rendering vital resistance less, and so predisposing to tubercular disease. Together with this reduced vital resistance, this predisposition inherited or acquired, trauma, local injury, acts powerfully in the production of hip disease. Gibney, one of the best and acutest observers, seems inclined to undervalue the importance of trauma; but a consensus of opinion is expressed by Lovett, who concludes that in about 50 per cent. of cases trauma plays an active part in furnishing conditions of soil where the circulating bacillus finds congenial conditions for growth and development. The classical experiments of Schueller are exceedingly interesting and instructive in this connection. Guinea pigs and dogs were rendered tuberculous by inhalations and injections of solutions containing tuberculous detritus from diseased lungs; the knee joints of each animal were then wrenched, or bruised. In a great proportion of all cases so treated a typical chronic tuberculous synovitis of these joints occurred, while similar injuries to healthy animals caused no joint disease, nothing beyond a temporary strain or sprain. Trauma, local injury, therefore, when exercised on healthy individuals, or on predisposed individuals, where the tubercle bacillus is not present in the circulation, excites only acute and, as a rule, temporary joint lesions; but exercised on predisposed individuals, in whom the tubercle bacillus is present, serves as the exciting cause of chronic tuberculous disease. These, then, are the chief factors in the causation of tuberculous joint disease: an inherited or acquired tendency to tuberculosis in most cases as a predisposing cause, with a history of trauma, local injury, as a direct, exciting cause in about 50 per cent. of cases. In most of the remaining 50 per cent. of cases tubercular hip joint disease occurs, without the exciting local trauma, but in predisposed subjects; and in a small percentage of cases it occurs in children who have every appearance of perfect health.

Age.—As regards age, tuberculous hip disease is most apt to develop between two and ten years, seldom before two years and after eleven, and in the latter case almost always as a result of local injury. A vast majority of all cases occur between the ages of four and eight. It is important to keep this in mind in making a diagnosis.

Sex.—Boys are affected slightly more frequently than girls, which would be expected from the more venturesome, reckless ways of boys, exposing them to more frequent local injury.

We turn for a moment to the pathology of the disease: While in more ancient times it was believed the cartilage covering the head of the femur and lining the acetabulum was the starting point of the process, it is now known that this is practically always secondarily involved, and that the process begins in either the synovial membrane, which, it will be remembered, laps over only a small peripheral portion of the head of the femur, or in the bone; most frequently in the neighborhood of the epiphyseal line of the head of the femur; sometimes in the bone making up the acetabular wall. The relative frequency of synovial and osseous origin of disease is difficult of determination, for the reason that few cases have come early to autopsy, and later in the disease there is almost surely involvement of both synovial membrane and bone by extension of the process from one to the other, no matter in which the process may have started. As a result of the few early autopsies that have been made, and of the many excisions, the conclusion is reached that the process is usually osseous in its beginning, especially in children, more frequently synovial in individuals beyond ten years of age. When osseous, most frequently it commences around the epiphyseal extremity of the femur, though sometimes in the acetabular wall. So far as symptoms go, it is practicably impossible to determine whether the disease be femoral, synovial or acetabular in origin. Sometimes the focus of disease is near the epiphyseal line of one of the trochanters; in such a case it becomes possible sometimes to definitely differentiate. "In the bone the first change to occur is a hyperaemia of the spongy tissues about the epiphysis, which is followed by the appearance in the center of this hyperaemic area of a small, grayish, translucent spot, which increases in size, and is surrounded by a zone of hyperaemia. It is probable this stage of the disease is caused by an infection through the blood vessels, that bacilli become heaped up in the capillary of an Haversian canal and start up an endarteritis, which results in a tubercle. The irritation of this process causes and keeps up the hyperaemia, which results in the process described as rarifying ostitis—that is, the trabeculae are absorbed in the hyperaemic area surrounding the tubercle, enlarged bone spaces are formed, and fatty degeneration of the bone cells occurs, with transformation of their contents to embryonal or granulation tissue.

"The earliest stage, then, seems to consist of a tubercle situated in an area of hyperaemic spongy bone tissue, which is undergoing the absorption and degeneration which result from prolonged hyperaemia. The gray spot continues to increase, and in its center becomes yellowish; around it appear other smaller gray spots, which merge into it and hasten its destructive career. Softening occurs, with formation of pus, preceding which the focus has become a semisolid cheesy mass, consisting of detritis, spicules of bone, amorphous matter and fat. The active destruction goes on at the periphery of the nodule, its growth taking place along the line of least resistance. Sequestration occurs, the necrosis occasionally extending a short distance into the diaphysis." (Lovett.)

The synovial membrane is thickened and succulent most often, and studded with tubercles, which extend even into the sub-synovial tissue. On the other hand, the tubercles may be present in a synovial membrane almost unchanged by inflammation. The effusion is generally copious and serous or sero-purulent; the synovial tissue tends to granulation, and the affection shades into the common form of fungous synovitis. The synovial membrane becomes succulent and boggy; it encroaches upon and overlaps the cartilage and becomes adherent to it, and when separated leaves a bleeding, corroded surface. The cartilage softens, a gelatinous degeneration takes place, and next the surrounding bony substance becomes involved. Returning to the initial osseous focus, the destructive breaking-down process continues in the line of least resistance, generally toward the cartilage covering the head of the bone, sometimes toward the periosteum. The cartilage is attacked, becomes soft and spongy, eroded, breaks down, when the joint proper is involved, together with the synovial membrane. When this point has been reached, when the cartilage has been broken through either from the side of the synovial membrane or from the primary osseous focus, the pathological picture is the same, and it is impossible to know which was the primary focus and which the direction of secondary invasion and destruction.

The specimen I exhibit very aptly illustrates the condition just described. The patient was a child aged five years, who came under my observation in December last, suffering from what was diagnosticated as hip joint disease. The parents said that was the first time the child had complained, and the first indication of disease they had noticed. The probability is, however, that it began sooner. Under mechanical treatment the child did very well, locomotion being, of course, more or less affected, but died some months later from an intercurrent attack of tubercular meningitis.

I dissected out the hip joint entire, which will speak for itself. No operation of any nature had been performed upon the child for relief of the hip disease. From the specimen it is plainly apparent that the original focus of the disease was near the epiphyseal line of the femur. There is a small abscess at one point; it appears to be about the insertion of the lesser trochanter. In dissecting the muscle back I found a cheesy mass, which evidently was at the expense of the bone. The specimen shows further that the ligaments are entirely destroyed. The cartilage is broken through, and the cartilage of the acetabular wall is likewise affected. In cutting through it was found that the bony wall of the acetabulum had been involved, evidently secondarily. The whole joint was practically disorganized, and as I have divided the bone you can see very plainly the original focus of the disease, I take it, which was in the internal epiphyseal line, extending both ways, upward and downward.

For our present purposes this is as far as we need follow the pathological process; what I wish to lay stress on is that, considering the nature of this process, whenever a diagnosis of tubercular ostitis of the hip can be made, it must be considered that a pathological process has so far advanced and of such nature as to preclude almost the possibility of rapid arrest, no matter what manner of treatment may be employed. I say *almost*, because it could be recognized as possible, and probably does sometimes occur, that complete protection serves to limit the synovial tubercles or arrest the progression of the osseous destruction, and so in a comparatively short time complete cure may result. But this is certainly not the rule but the rare exception. Therefore, when one has failed to recognize incipient hip disease and the case has afterward developed into a destructive and perhaps fatal disease, the comforting thought can be cherished that perhaps the same thing would have occurred even had the disease early been recognized and the best possible protection furnished. Indeed, considering the frequent difficulty experienced in getting patients and parents to persist long and earnestly enough in carrying out a protective treatment, it would seem sometimes desirable to permit such symptoms to become apparent as would convince both surgeon and patient that the latter certainly and incontrovertibly had hip joint disease.

Early and efficient treatment, while it cannot be expected to bring the tuberculous process to a speedy termination, does serve as a rule to limit the destructive process, and by preventing great suffering and pain, and, later, deformity, places the patient in the best possible condition, combined with general and hygienic treatment for combating the disease. But if vital resistance has been so little as to permit the formation of tubercle, it is certainly unreasonable to suppose that joint protection is going to cause a speedy termination of the process. The experience of most surgeons fully bears out this proposition. Bradford and Lovett say: "It may be stated that from two to three years will probably be needed in the treatment of hip disease taken at an early stage." Thirty-nine cured cases reported by Schaffer and Lovett were several years under treatment, the shortest time being two years and the longest eight years. Considering, then, what has been said, it must be concluded that most of the cases, at least that have come early under treatment, before the symptoms and signs were such as to make the diagnosis patent to the most obtuse or inexperienced of observers, and have resulted in speedy and permanent cure, have in all likelihood not been cases of hip joint disease at all, at least not coxitis tuberculosa. This brings us to consideration of the difficulties of diagnosis. The scope of this paper prohibits anything like a full consideration of all the points involved in the differential diagnosis. Little more can be done than to merely mention the various affections which can be and have often been mistaken for hip disease, and then, in conclusion, invite attention briefly to a few salient points which are most serviceable in early recognizing this by no means easily recognizable affection.

We have, then, strains or sprains of the hip as of other joints, acute arthritis, acute and chronic synovitis, gummatous ostitis, hysterical affections, neuralgia of the hip, sometimes of malarial origin, monarticular rheumatism, neoplasms; bursitis, inflammation of the bursae, connected with or in the neighborhood of the hip joint; loose bodies, arthritis deformans, and Charcot's disease. In considering the differential diagnosis of incipient hip disease many of these affections are at once self-eliminative. Before all things it must be remembered that tubercular coxitis is a disease characterized by *chronicity*, the cases occurring with an acute onset being exceedingly rare. Therefore, in practically all cases which can be recognized as incipient hip disease will be found a certain amount of atrophy of the limb, thigh and calf, dependent on trophic disturbance on the one hand, and on disuse due to instinctive protection on the other. This atrophy, in connection with certain limitations in the movements of the limb, more especially in the directions of *inward rotation, abduction and hyperextension*, are the symptoms most to be depended upon. When these limitations of movement are accompanied by pain on pressure in the groin and behind the trochanter, and by pain in the knee, especially pain referred by the patient, if old enough, to a point over the inner condyle, and at the same time when a small amount of atrophy can be determined, the diagnosis of commencing hip joint disease is comparatively safe. But where no atrophy is present, and the process has not demonstrated chronicity, the presence of pain alone and limitation of movement are insecure foundations upon which to base a diagnosis of incipient hip disease. It must be remembered these symptoms can be present as a result of a wrench or sprain, as well as in some of the other conditions already mentioned as affecting the hip joint. In such cases the safe course is to put the patient at rest in bed, and trust to time to make the diagnosis clearer.

DISCUSSION.

Dr. A. M. Cartledge: I know of nothing that gives the surgeon more concern than the early diagnosis of hip joint disease. The essayist has clearly outlined the conditions we so frequently find associated with hip joint disease in its early stages and the difficulties we encounter in making a diagnosis. Cases are indeed exceptional where injury develops any lasting pain unless there is some irritation from a tuberculous process. Where the injury has been followed by very slight local manifestations, we are not justified in making a diagnosis of hip joint disease. In the case of a child who gets a fall not sufficient to give external evidences of a bruise, and still has marked evidences of involvement of the hip after a lapse of three weeks, the inference is that you have engrafted a tuberculous process at the point of lessened resistance. You then have an incipient tuberculosis.

Now there is a class of cases that are still more puzzling, and I have met with several of them. They are cases that we still have to class as hip joint disease in which they are not primarily tuberculous, and I believe the number of these is much larger than the statement of the essayist would indicate. There are a great many cases of hip joint disease that ultimately become tuberculous and pass into the category outlined in the paper, that are primarily cases of acute osteo-myelitis of the joint. I have had occasion to observe a number of cases of hip joint disease, beginning more or less actively, not so acute as we observe about the knee joint, of acute osteo-myelitis in which on the third day there was rather a pronounced feverish condition. The temperature was not taken at first, and the patient did not know how high it was, but it is safe to say that it ranged between 102 and 103 F. Many of these cases we see without any evidence of synovitis, the synovial membrane not having yet been involved, and the inference is in these cases that there is a pyogenic infection with no destruction of bone in the beginning, perhaps, later, with a secondary tuberculous infection, with limb atrophy, restriction of motion, etc., which the essayist has stated in his paper. I have seen a number such cases. These are the cases that give us early abscess. I believe the pathology of hip joint disease will have to be reversed slightly in many cases. Heretofore, many abscesses which we looked upon as tuberculous primarily, I believe to have been originally caused by pus germs. In time an osteo-myelitis may become tuberculous, just as we may have a secondary mixed infection elsewhere in the body. That gives us a new category. A case may be rapidly suppurative in the beginning, finally resulting in arthritis, and usually synovitis, but I have seen such cases with high temperature from the beginning with no synovial inflammation, and the only inference is that the trouble was originally an osteo-myelitis. I do not think we should attach much significance to trauma in these cases.

Dr. James S. Chenoweth: One point that has not been mentioned in the differential diagnosis of hip joint disease, and one that I have had called to my attention on one or two occasions within the last few months, are the conditions of purpura and exudative erythema. I have seen two such cases in children, one especially marked, from Owensboro, Ky. The mother wrote me about the child, stating that the diagnosis had been made by one physician of hip joint disease, another spinal disease. It turned out to be a case of simple scurvy, with bleeding gums, an extensive purpuric eruption, edematous swellings about the limbs and enlargement of the epiphyses of the bones. Relief promptly followed change in diet and general hygienic measures.

I mention this as being a point that might sometimes be confusing in children.

Dr. A. M. Vance: The paper has certainly covered the ground very well. There is no question in the world but it is very difficult to make a diagnosis of hip disease in its early stages, and only those who have seen a great many cases, and are repeatedly and constantly handling them, can make it. The family history helps us out; a tuberculous history on the part of parents or some of their children makes a point in the diagnosis; and lately I have found another feature that ought to be taken into consideration, and that is the association of the child with tuberculous people outside of the family. I have had a number of cases recently where I was guided somewhat in my diagnosis by the fact that the children had tuberculous nurses, or had been in the same house with other families where people had died of tuberculosis. I believe that it is almost certain that children have tuberculous hip disease following trauma, if the children are associated with tuberculous persons. I do not think as a rule that weeks and sometimes even months cut any figure in the consideration of chronic tuberculous ostitis of childhood. Very few symptoms develop in weeks as a rule in ninety-five per cent. of cases. The first visit of a child with suspected hip joint disease is anywhere from six months to six years from the time symptoms really began. By a careful examination and questioning of parents you can usually find that the child has been ailing much longer than a few weeks, as a rule, before they apply to a doctor for treatment. The gravity is in proportion to the chronicity of the case, therefore I think acute osteo-myelitis is easily ruled out in most instances. Nearly all of these children who have a tuberculous ostitis have some atrophy before they come under the observation of the doctor. This is an important symptom, and the general reflexes and lessened joint motion are by far the most important features to be considered in making a diagnosis. The matter of shortening, and obliteration of the gluteal fold, and the supposed lengthening, plays very little part. The tuberculous history or possibility of a tuberculous environment, with localized trauma, the reflexes and loss of motion at the hip with atrophy, are the principal symptoms that give us the diagnosis. It is very hard to explain just how we can make out the diagnosis. You can make it sometimes with only one prominent symptom. I have seen children with hip disease when only one symptom was present—loss of rotation. Flexion, extension, abduction and adduction normal, simply an inability to rotate the thigh. The vast majority of cases of tuberculous hip disease commence in the bone, and it is often six months before it reaches tissue that causes much exacerbation. I should say that in ninety per cent. of the cases occurring between four and ten years, it is from three to nine months before you get active pain in the joint. You get pain in the knee, you get atrophy, limp and night cries, you get all the other symptoms of hip disease before you get joint pain. I do not mean by that, pain which is due to wrenching of the joint, but pain that keeps the child awake at night and that causes the parents to bring it to the surgeon.

DR. JAMES B. BULLITT: What in your opinion is the efficacy of treatment in the early stages of hip joint disease, and especially conservative treatment?

DR. A. M. VANCE: The earlier treatment is commenced the better. I believe, in looking back over my cases, I can recall three or four where, in my opinion, there was present a tuberculous ostitis with all of the reasons for it, where the patients have become perfectly well. Particularly in two cases I know the children have become absolutely well where the treatment was commenced in the second stage. I have some others that were treated in their incipiency before I could positively state they had tuberculous ostitis, that have gotten well. I am inclined to think where they get well very rapidly, where early signs only are present, that the diagnosis is questionable.

DR. W. O. ROBERTS: I agree with what all the gentlemen who have preceded me have said, that early diagnosis of hip joint disease, while very important, is frequently exceedingly difficult. I think, therefore, that all cases ought to be treated as though they were hip disease until the diagnosis is cleared up. In many of them nothing but time will clear the diagnosis.

DR. W. L. RODMAN: I simply wish to commend the essayist upon his most excellent paper. I think I am prepared to indorse every position he takes. Certainly the difficulties of early diagnosis are not only very great, but at times insuperable. I agree with him that if the supposed cases of tuberculous ostitis yield promptly to treatment, that probably we are mistaken in our diagnosis. I also agree as to the pathology; my own experience has not led me to think that few if any of these cases begin as an acute osteo-myelitis; I think they are usually tuberculous from the first.

Dr. Louis Frank: A word or two as to the pathology of hip joint disease, and this emphasizes the point brought out by Dr. Vance: The family history of these cases, I should think, would be of the greatest importance, not only as to the direct family history, but as to the surroundings and associations of these children. We know that tuberculous troubles are not so frequently directly inherited as they are due to infection from associations. I should think in the great majority of these cases the tuberculous infection was primary, except in that class mentioned by Dr. Cartledge. I can readily see that probably we may have first an osteo-myelitis and a tuberculous trouble engrafted upon it.

As to treatment, I can hardly see how fixation of the joint could influence the growth of the tubercle bacillus; motion would of course to some degree necessarily increase the lesion and the inflammatory condition; but as to rest inhibiting the growth of the organism itself, which causes the trouble, I cannot possibly see how it could have any effect, and am inclined to think it would merely be a question of diagnosis.

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KERATITIS XEROTICA.

By Sydney Stephenson, M.B., F.R.C.S.E.,
Ophthalmic Surgeon to the North-Eastern Hospital for Children ; Surgeon to the Ophthalmic School, Hanwell, W.

KERATITIS XEROTICA (Feuer) appears to be a rare affection, especially amongst children. It is met with exclusively in those who by reason of grave illness lie for long periods together with imperfectly closed eyelids, so that the cornea becomes desiccated. For example, it may occur in the exanthemata, in cholera morbus or infantum, in meningitis, and so forth. It seldom falls under the notice of the ophthalmic surgeon, as most of the patients are lying literally at death's door when the condition sets in. It possesses, nevertheless, great practical importance ; by simple means a physician aware of its nature can minimize its results, or even prevent it altogether. Its signs, symptoms and treatment should consequently be understood by every medical man.

The changes characteristic of keratitis xerotica are confined to the lower part of the cornea, which loses its natural lustre, gets coated with dried secretion, becomes dull, hazy and gray, and finally may ulcerate. The iris often shows signs of inflammation, as evidenced by blurring of its tissue, rigidity of the pupil and the formation of posterior synechiae. Pus in the anterior chamber is now and again present. The ordinary signs of inflammation are so badly marked that unless search be made keratitis xerotica may be overlooked altogether. If the patient live long enough the affection may go on to perforation of the cornea, escape of the aqueous humor and prolapse of the iris—a sequence of events likely to be followed by septic panophthalmitis. On the other hand, the cornea may heal, in which case a dense crescent of opacity will remain in permanent evidence. This is a condition that once seen can be scarcely forgotten. Lastly, the fact should be mentioned that this form of keratitis is nearly always bilateral.

While this, then, is the usual history of keratitis xerotica, the following case seems to show that for its production two factors, besides exposure of the cornea to air, come into play. These are: (1) A state of great debility on the part of the patient, and (2) the presence within the conjunctival sac of pyococci.

Catherine L—— had some congenital shortness of the upper lids, so that she habitually slept with her palpebral fissures open for, perhaps, 2 mm. In June, 1895 (being then 15 years of age) she complained of difficulty in defecation, and it was found that diarrhœa alternated with periods of obstinate constipation. Moreover, a tender, annular growth, which bled readily, was discovered in the lower bowel. This was diagnosed as cancer, and inguinal colotomy was performed in July.

In March, 1896, ascites set in. The child suffered much pain, lost flesh rapidly, and her temperature was generally sub-normal. By the following month the dropsy had increased in amount, and oedema of the inferior extremities was likewise present. On May 2, the abdominal distension had reached such a pitch that paracentesis was performed by my colleague, Dr. Litteljohn, who removed about 1½ gallons of blood-stained serum. As the girl was semi-conscious, the operation was done without any general anaesthetic. On the same day it was noted for the first time that the lower sixth of each cornea was dull and grayish. There was a trace merely of redness in the corresponding part of the ciliary zone. A little stringy, yellowish-white discharge was present in the lower conjunctival sinus, as well as upon the surface of the cornea. There appeared to be no pain. After the removal of the secretion and disinfection of the conjunctiva, the eyelids were closed by means of a pad and bandage. Next day the left cornea presented at its lower part an oval, shallow ulcer, the edges and base of which were infiltrated. The corresponding part of the right cornea had not broken down, although it was gray, and its epithelium gave one the impression of being stippled, so to speak. The pupils were small and sluggish, but there was no actual evidence of iritis. The pad and bandage was replaced by narrow strips of adhesive strapping, with which the lids were brought into apposition. The patient became wholly unconscious on May 9, and died quietly next day. It is satisfactory to relate that perforation of the cornea did not take place: on the contrary, from the time when the lids were closed by plaster strips, the eyes showed signs of improvement.

A bacteriological examination was made both of the secretion taken from the eye and of the débris from the ulcer in the left cornea. Cover-glass preparations showed that the streptococcus pyogenes was present in large numbers. From the same source three organisms were cultivated: (a) the streptococcus pyogenes; (b) the staphylococcus pyogenes aureus; (c) a bacillus that turned out to be the bacillus subtilis. The last was found in one tube only, while the others were present in every tube inoculated.

The treatment of keratitis xerotica may be either preventive or curative. When a patient who is seriouly ill is found to sleep with partially open eyelids, the physician should take care that they are brought into apposition so that they cannot be opened, with or without the aid of volition. This may be done in several ways. For instance, a carefully applied pad and bandage may suffice, or narrow strips of plaster may be used for the purpose. Another excellent plan is to fasten the upper lashes to the skin of the lower lid by means of contractile collodion. Five per cent. of celloidin, dissolved in equal parts of absolute alcohol and ether, sometimes answers even better than collodion. Before the lids are closed the conjunctiva should be disinfected by washing with a tepid solution of corrosive sublimate (1 to 4,000), and the process repeated daily. Should ulceration be actually present, the corneal lesion may be touched with a 3 per cent. solution of silver nitrate, or even with the *tinctura iodi* of the British Pharmacopoeia. After that the eyelids are to be closed, as in the first instance.

Butter from Sterilized Milk.—A machine has been invented by a Swedish engineer which will transform sterilized milk into butter in one minute. Not only is time saved, but the butter is made absolutely pure and free from germs. The milk is heated in the sterilizer to 160° F. From the sterilizer it runs into a churning chamber, where it is cooled down to 60° in its progress, by means of very small cooling frames, through which iced water constantly passes, and which revolves with the churning chamber at the rate of six thousand revolutions a minute. Several advantages are claimed for this remarkable machine, which bids fair to create a revolution in butter-making upon a large scale. In the first place, by sterilizing the milk, disease germs, if they are in it, are destroyed, as well as the microbes which cause putrefaction of the butter. The process of buttermaking is so rapid that there is very little chance of any germs that may exist in the atmosphere of the dairy getting into the butter, especially as all, or nearly all, air must be forced out of the chamber of the machine by the extreme rapidity of the movement going on inside. When the butter is once pressed, the possibility of germ impregnation is almost eliminated. Thus a wholesome and permanently pure butter is produced. Another advantage is that milk can be converted into butter directly after being obtained from the cow.—*Med. News, 1896, lxviii, 731.*

SURGICAL AND MECHANICAL RELIEF OF SO-CALLED HOPELESS PARALYTIC CRIPPLES.

By DEFOREST WILLARD M.D.,
Philadelphia, Pa.,
Clinical Professor of Orthopaedic Surgery, University of Pennsylvania ; Surgeon to the Presbyterian Hospital, etc., etc.

SCATTERED throughout the State are scores, yes, hundreds of individuals who spend their lives helplessly upon the floor or in beds, or who are extremely limited in their means of locomotion, and only move about on crutches. Many of them never see the outside world. Some of these cases are deformed from bone inflammations, but a large portion are deprived of locomotion by the results of various forms of paralyses.

Infantile paralysis and cerebro-spastic paralysis are the two forms most commonly met with. Anterior-poliomyelitis, with its resultant atrophy of certain sets of muscles, gives greater power to the opposing muscles, which, together with weight-bearing, results in various contractions at hip, knee or ankle, which may ultimately prevent the patient from walking, even if the muscular power is to a certain extent retained. This interference with locomotion is largely mechanical, and even an individual of strong, normal muscles would find it difficult to walk with limbs permanently fixed in false positions.

A man, having but two feet, is in a worse position than a quadruped ; weight-bearing being interfered with if a single supporting leg is affected. Man is a plantigrade animal and needs to tread broadly upon the sole of his feet to enable him to retain the erect position. The weight of the trunk must also be transmitted to the feet, in nearly a straight line. When this position is impossible the individual is necessarily rendered helpless. The first idea, therefore, should be to place the limb as nearly as possible in the normal position for sustaining weight, and every effort should be made to secure this condition. Until it is secured, no one has a right to say that a case is incurable or that locomotion is impossible.

Atrophy of the muscles may exist, but I frequently see the weakened muscles assert their power under the stimulating influence of motion and exercise. I have records of scores of cases who for years have been helpless upon the floor, and would have remained so to this day but for the surgical and mechanical help rendered them. Some of them have been made to walk unaided for miles ; others progress with the assistance of canes ; others on crutches or by other aids to locomotion ; all such accessories are better than helpless confinement. Not only does locomotion add to the physical development, but it also contributes largely to the mental education and thereby increases knowledge. Faces upon whose lineaments had been stamped hopeless despair have, by the magic influence of hope, become bright and happy and the individuals are made useful members of society.

Even atrophy of the peri-articular muscles about the hip with contraction, though a serious condition and most difficult to deal with, ought not to be considered absolutely incurable, for surgical and mechanical measures can assist even this deformity.

If the arms are well developed and strong we can most positively expect good results, no matter how weakened are the lower extremities ; but where the polio-myelitis has been high up in the cord, and where the paralysis has extended to the upper extremities, of course, the difficulty is greatly increased.

In infantile spinal cases, however, the non-improvable cases are few.

In cerebro-spinal cases, of course, the benefit to be obtained will depend largely upon the brain power of the individual ; but a surgeon can, even in these cases, put the patient in a condition to secure the advantage of contact with the outside world. This acts as a stimulation and secondarily results in brain development.

All the theories of the neurologists can never discourage me when I see the results of my clinical work even in the most desperate and even idiotic cases.

The staggering, uncertain gait of the spastic, often with knees striking or actually crossed, with knees flexed and heels raised, is well known, but if the brain power is present no one need despair of securing a moderate amount of improvement, depending in degree upon the vigor of the cerebral cells.

The straightening of such legs and the sending of such individuals out into the educating influences of the world will daily expand the cerebral cortical cells, and improvement will always result.

Treatment.—Operative interference, as a rule, should precede any attempt at mechanical support. It is useless to inflict pain when simple and safe operative measures will in half an hour accomplish the result in a better manner. One need not fear that a limb will become weakened in consequence of operative measures ; on the contrary, it will be stronger since the proper muscular equilibrium will be secured, and a limb with equalized muscular power must of necessity be more serviceable than a limb in which one set of muscles is strong and another set weak.

The one operative rule to be followed is to divide all contracted tissues, whether muscular, fascial or ligamentous. This may be done either subcutaneously or by open incision. In the region of important structures it is safer to see exactly what tissues are to be divided, and with thorough asepsis a good result may be expected.

It is perfectly feasible subcutaneously to cut the tensor vaginae femoris and the origin of the sartorius and rectus, together with the fascia, without injury to any important structures; but if the contraction extends forward and surrounds the anterior crural nerve it will be safer to make an open section.

In extreme cases where the pelvis has been long tilted forward and the lordosis is very great, even section of the psoas and iliacus will not place the pelvis precisely in the normal line.

A longitudinal incision is better than a transverse one, as the straightening of the limb is apt to make a gap in a transverse wound.

In all these cases of extensive division there is liable to be a large space beneath the anterior spinous process which is difficult to obliterate. A cavity beneath the skin, even though filled with blood, is apt to give trouble, but by close suturing and the use of a large compress it can usually be obliterated.

For thorough stretching of the contracted tissue in front of the hip, the pelvis can best be secured by placing the patient in the prone position, but care must be exercised not to injure the abdomen by undue violence.

When the adductors are contracted, producing scissor or crossed legs, their division is easily accomplished subcutaneously. This subdermal method is decidedly preferable on account of the fact that in cerebro-spastic cases urinary soiling of the wound is common. To remove the puncture as far as possible from the genitalia, the skin of the thigh should be drawn toward the median line of the body, so that the puncture (which should be extremely small) shall, after recession, be nearly in the center below Poupart's ligament. The saphenous vein must, of course, be avoided.

This operation must be done under the most strict aseptic precautions, and the wound must be carefully covered and excluded from possible infection. The dressing near the genitalia should be covered with macintosh and held in place by adhesive strips or protected by shellac.

The best dressing for the retention of the limbs in abduction is by fixing the knees by gypsum, then separating the limbs widely during the several weeks required for repair. Such dressing is also useful for keeping up extension on the divided tensor vaginae femoris and rectus.

When there is extreme lordosis, as is present in old cases of infantile paralysis, much can be accomplished by long continued extension downward from the legs and upwards from the head and shoulders.

At the knee in cerebro-spastic cases the tendons can be divided subcutaneously. In old cases, however, the contraction of the connective tissue is great ; it is often wiser to do the open operation to avoid the risk of injuring the vessels and nerves, although when the tendons alone are at fault the subcutaneous operation is preferable. If two or three longitudinal incisions are made, closure is much more easily effected than by transverse cuts, as the latter always gape when the limb is extended.

The worst cases to encounter are those where the patient has crawled upon the floor for years and have produced a partial posterior displacement of the tibia, together with an overgrowth of the anterior part of the condyle of the femur, producing an overhanging bony edge, that can only be overcome by partial resection of the knee. In some of these cases, however, resection is of advantage, as subsequent anchylosis and fixation of the knee does away with the necessity for apparatus and gives the patient a good walking member. I have operated upon quite a number of these cases for this purpose. In some cases only the cartilage is pared away from the anterior section, just sufficient to straighten the limb. It is then necessary to fix the leg in the descending position until anchylosis occurs. It is seldom necessary to wire the femur and tibia, as a rigid dressing of plaster of Paris is sufficient.

If the operation is cleanly done, no danger need be feared and primary union can be secured. The limb may be dressed in plaster of Paris, or a bracketed or a posterior splint may be applied.

At the ankle, in cases of infantile paralysis, tenotomy will be required ; usually the tendo-Achillis, the posterior and anterior tibialis and the plantar fascia, in equino varus ; and of the peroneals in valgus cases. In calcaneus, the shortening of the tendo-Achillis is occasionally necessary, with the subsequent employment of a stop joint. In adults the astragalus may require removal in stubborn varus, or the scaphoid may demand similar excision in particularly bad valgus.

In anchylosis, following inflammatory trouble about the joints, tenotomy, forcible straightening, osteotomy and excision are all most serviceable.

Conclusions.—1. A limb, contracted at the hip, knee or ankle is mechanically unfit for locomotion, but if brought into a straight line with the body it can sustain the weight.

2. Surgical measures, tenotomy, myotomy, osteotomy or excision, are frequently required to accomplish this result.

3. Subsequent support by mechanical appliances is usually necessary, together with the temporary use of crutches, wheeled crutches, or other support.

4. By a judicious combination of these measures, a case having sufficient strength in the arms to assist in locomotion need not be considered hopeless.

Editorial.

LUMBAR PUNCTURE OF THE SUBARACHNOID SPACE.

THAT a prophet is sometimes deservedly without honor in his own country would seem to be proven by Hirt, who in his text-book on "Pathologie und Therapie der Nervenkrankheiten," referring to the cases of Wynter, in which paracentesis of the spinal canal had been done for the relief of intra-cranial pressure in meningitis, says that this procedure will scarcely find any imitators.

Yet, in the same year, Quincke, in discussing the symptom of hydrocephalus before the Tenth Congress of Internal Medicine, advocated this procedure, which he had performed in ten cases, not only on account of its diagnostic value, but because of the use that might be made of it therapeutically. Since the paper of Quincke this procedure has been adopted very widely both in Germany and in America, to a less extent, apparently, in Great Britain and France, so that to-day it may be said that it has, as Quincke prophesied it would do, taken its place among the recognized diagnostic methods in medicine. Its earnest application has been made in Germany, particularly by Fürbringer, and in this country by Jacoby, although abroad Lichtheim and von Zienssem had previously emphasized its value as a diagnostic procedure, and Browning had done the same here.

Fürbringer based his conclusions upon the analysis of 86 cases in which this little operation had been done. He followed the instructions as given originally by Quincke, and aspirated the spinal canal between the second and third, or third and fourth lumbar vertebrae, by the use of a Pravas syringe, and removed at a sitting as much as 110 ccm. by means of aspiration.

This experience of Fürbringer led him to lay great stress, too great we believe, upon the diagnostic importance of the operation, while therapeutically he considered it of but very slight service. He was led to the former belief by the fact that in 37 cases of tubercular meningitis where it was employed, in no less than 30 of these was the presence of tubercle bacilli made out. The experience of others, however, has not substantiated the opinion that the examination of fluid obtained by such a paracentesis would have equal diagnostic value to the examination of the sputa of a patient suspected with pulmonary disease.

It would seem to be the consensus of opinion to-day, if we may change from the retrospective examination of the literature, that the operation advocated by Quincke has certain definite diagnostic value in a few conditions, namely, in serous meningitis, the meningitis serosa of German writers ; in tubercular meningitis, in septic and specific meningitis, and to a lesser extent in brain abscess, and to a very slight extent in such intra-cranial septic conditions, as sinus thrombosis. Its diagnostic value in intra-cranial growths, such as tumor of the brain, and the like, are very slight, practically nil. Up to the present day it has not been demonstrated that it has any therapeutic value whatsoever. Those who have tapped the lumbar canal and removed fluid in cases of congenital or chronic hydrocephalus, with the expectation of causing a decided amelioration in the symptoms or cure, have been disappointed, every one without exception. A priori, if the pathology of these conditions be understood, this is the result that will be looked for naturally. One may much more laudably entertain the hopes of curing the tubercular peritonitis, or the tubercular synovitis by aspiration than to cure a tubercular hydrocephalus by withdrawing the fluid from the spinal canal, and this even if a permanent drainage be kept, as has been suggested by some physicians. And, if a moment's consideration be given to the causation and pathology of congenital hydrocephalus, the idea of curing the disease by attacking one of the symptoms, which in all probability is purely compensatory, and therefore beneficial, is nothing short of ridiculous. Its therapeutic worth in meningitis serosa, we believe, is considerable, and in those forms of meningitis which are necessarily fatal it is of service, as suggested by Hubner, to mediate the headache, to prevent the severity of the convulsions, and in a general way to make the patient more comfortable than before.

In tuberculous meningitis not infrequently the prodromal symptoms are not only of long duration but are sufficiently characteristic to suggest the diagnosis. If puncture of the lumbar cord should reveal by the examination of the withdrawn fluid the presence of tubercle bacilli, in this stage, it is possible that measures might be taken which would prove inimical to the development of the disease. Although it has been pointed out by Quincke, Jacoby and others that the operation is very simple and devoid of danger, the experience of many others is apparently not in accord with theirs. Fürbringer has seen injury to the sensory nerves with resulting disturbance of sensibility. In another case there was persistent twitching of one extremity after the operation, while in another he came very near to puncture the aorta. In one case of brain tumor in which puncture of the lumbar canal was made, collapse and sudden death followed with great rapidity, and a similar outcome was his experience in three cases of uraemia.

Fürbringer believes that the little operation should not be done by the general physician, but only by one who has made himself accustomed to the operation on the dead subject, and has had experience on the living. Senator, however, whose experience has been very much less, and Jacoby, who at the time of his report had had an experiences of 35 cases, believes that the general physician should do it, and do it, we may say, on very slight provocation. But the number of cases that have been reported in which disagreeable consequences have followed, would lead us to believe that Senator or Fürbringer's advice is perhaps the safer one to follow.

In a recent paper Quincke, embodying the conclusions of his first paper and the experience gained since then, remarks that the Pravas syringe should be absolutely discarded, and particularly because in adult life the needle is not long enough (1 to 8 cm.). He again points out that the most convenient way to perform the operation is the lying posture, the patient lying on the side, with the thighs forcibly flexed, so as to make the lumbar spine convex backward, while in children the same results can be obtained by putting the patient on its abdomen across the mother's or the nurse's knee. In Germany it has not been the custom, apparently, to administer an anaesthetic during this little operation, but in this country it would seem that patients were anaesthetized more frequently, and in fact in adult life it is probable that results will be more satisfactory if the operation is performed while under a moderate degree of anaesthesia. The question of attaching the aspirator to the needle after the stilet has been withdrawn is one that has provoked considerable discussion. Goldscheider is of the opinion that the aspirator should not be used, and we believe that this view cannot be too widely disseminated.

Although we are ready to believe that this operation has a definite field and should be adopted by the practicing physician, we are of the opinion that some recent writers have given an undue estimate of its value, particularly from a therapeutic standpoint, and have attached too little importance to the procedure, slight though it is. We cannot join with Jacoby in saying: "It will shortly form part of the routine work of every practicing physician." We sincerely hope that it never will, if by routine work it is meant that it should become as common as the hypodermic syringe, or the stethoscope, or the thermometer. No good can follow, and much injury may, the advocacy of entering a canal, which has such connections as the spinal canal, without due deliberation and indications.

As for its applications in such conditions as small focal lesions within the brain, in which there are no pressure symptoms, as we have seen it done, we cannot too severely deprecate such a procedure.

JOSEPH COLLINS, M. D., New York.

Society Reports.

AMERICAN MEDICAL ASSOCIATION.

(*Concluded from page 567.*)

Discussion Upon Chronic Ringworm of the Scalp.—In the Section on Dermatology, the question of chronic ringworm of the scalp in children was opened by Dr. L. D. Buckley, of New York. Only 2½ per cent. of the those affected, according to his statistics, were over thirteen years of age. Many cases go for years unrecognized, and consequently untreated, or without the proper treatment, thus remaining as sources of danger to all other children with whom they are thrown in contact. The diagnosis is not always as simple a matter as is generally supposed, some showing a single bald patch without marked characteristic features. Or, again, when a case has been of long duration, the patch may become covered with a growth of long hair, which hides the few broken shafts and the scaly surface by which a diagnosis would be made. The idea which often prevails that ringworm of the scalp is an easily cured affection is far from the truth. The average time of treatment is from three to six months, and some cases remain refractory to all attempts at cure much beyond this period. Time is often a most essential factor in the outcome. In view of this, we must accept reports of rapid cure with caution, and not be satisfied with the statement of the family physician that a given case is well after a short period of medication.

When the microsporon fungus is the one found to prevail, the case proves more obstinate than that in which the megalosporon alone is present.

Dr. H. A. Pulsford, of South Orange, N. J., had observed seventy-five cases in the New York Skin and Cancer Hospital. Out of this number twenty were discharged cured, after an average treatment of seven and a half months. Few have been so fortunate as Unna in seeing cases get well after two or three weeks, and Wickham reports that only 40 to 60 per cent. were cured after fifteen months. A case should not be recorded as cured until such a plan as that suggested by Wickham had been carried out. This observer has the hair cut and leaves the scalp undisturbed for a week ; he then cuts it again and leaves untreated for two weeks. If nothing is found then, after a further interval of two weeks, the case is put down as cured, provided in the interim no spots have developed. Being a self-limited disease, stopping at puberty, reaching this age will cure when nothing else will.

Epilation must be very carefully done to be of any benefit, and indiscriminate pulling out of hair is futile, while epilation at the margin of the patch may, in the writer's opinion, be the means of spreading rather than checking the disease.

Such parasiticides were employed as bichloride of mercury; carbolic acid and iodine; croton oil and other irritants were used to set up an inflammation about the hair follicles. Naphthalin gave good results when used as an ointment in 20 per cent. strength. Two of the cases were cured after five and a half weeks' treatment. Veratrine in strength of 8 to 30 grains to the ounce gave two cures. Chrysarobin ointment was without apparent beneficial effect in a number of cases. The writer considers it powerless against the fungus, which is deep in the follicles. The most effective drug of all was found to be mercury.

Dr. C. W. Allen, of New York, spoke of **The Management of Epidemics in Institutions.** His paper will be found on page 171, this issue of Pediatrics.

Dr. Wolff, of Atlanta, Ga., agreed with the necessity for strict isolation of those afflicted and the measures suggested by Dr. Allen. He avoided epilation as the result of an extensive experience in institutions. The following formula he had found most useful:

℞	Chrysarobin,	5.
	Ac. salicylic,	2.
	Ichthyol,	5.
	Vaseline,	88.

After this has been used for several weeks the following may be applied until all irritation has subsided:

℞	Pulv. Zinci Oxidi,	6.
	Sulphur Praecip.,	4.
	Terra Silicat,	2.
	Adipis Benzoat,	28.

Mix.

He had seen cases persist for two years and many of his own had lasted eleven months. He had experienced the same difficulties in securing proper co-operation from the managers of institutions as had been referred to.

Dr. Hutchins, of Atlanta, Ga., said that in one case which was well after three months' treatment, he had used kerosene in which bichloride of mercury was dissolved in strength of one to four grains to the ounce. After a time this had been changed to ichthyol and salicylic acid in zinc ointment or benzoated lard.

Dr. Schwartz also thought epilation at the margin of the patch favored spreading. Formaldehyde, which is a germicide and is very penetrating, he thought might be used with advantage. Pyrogallic acid and mercurials had been found too astringent.

Dr. Ravogli, of Cincinnati, Ohio, found nothing better than the modified Wilkinson ointment, rubbing it in twice daily. After this course, a two per cent. carbolic solution in alcohol is applied at frequent intervals. His results had been all that could be desired. He never inscribed cases as cured unless microscopic examination made two weeks after a seeming cure confirmed it.

Dr. Brayton, of Indianapolis, Ind., said that instead of cutting or epilating with forceps he had employed an epilating paste made by passing for an hour or two a stream of sulphuretted hydrogen gas through a thick creamy solution of freshly slacked lime. This eats off the hairs considerably below the surface and he thought it would prove far superior to attempts at extraction.

Dr. Gilchrist, of Baltimore, Md., said that such simple substances as soap had been found to check the development of ringworm spores in the laboratory. He had observed much ringworm among colored children. Clinically, the appearance in these persons is that of a dry seborrhoea rather than of ringworm as we see it in the white skinned race. Here the microscope is at times indispensable. The curled hair seems to break off less and the stubs show less plainly. It seems that chronic scalp ringworm is very common among the blacks in and about Baltimore. Treatment is very unsatisfactory. The deep penetration into the epidermis explains the difficulties of rapid cure quite as much as the extension of the fungus into the follicles.

Dr. Bulkley agreed that clippers should be boiled, but if the boiling is done in a soda solution and the instrument then dried in the oven, they are then no more objectionable than shears. Shaving as well as epilation may be accountable for spreading. Broken hair shafts may not be present in a given case, so all children entering institutions should be examined for scaly patches.

Dr. Hutchins said he agreed with Dr. Allen's views regarding the soil, which often has to be changed by internal treatment before the disease will keep down. With this end in view, he institutes rigid dietetic and therapeutic rules.

Dr. W. L. Allen, of Davenport, Ia., said that he had recently treated eighty cases in an institution with a 1½ per cent. solution of bichloride combined with the biniodide of mercury. After a year's treatment only six remained uncured. In other cases, after washing with green soap, thirty grains to the ounce of bichloride was applied cautiously. The effect of this varied greatly, and in a few instances was escharotic, and one death was attributed to mercurial poisoning. Newly-admitted children show evidences of the disease on an average of six weeks after admission. One-half of the patients are girls.

THE LOUISVILLE CLINICAL SOCIETY.

Intussusception.—LOUIS FRANK: My reason for reporting the following case is because of the rarity of the outcome of such a condition. One week ago to-day I was called to see a child, aged eight months, with the history of repeated vomiting in the morning. The vomited matter consisted largely of curds mixed with bilious looking matter. The bowels had not moved that day. The abdomen was distinctly and exquisitely tender; the child was quiet at the time, though it had been restless. Small doses of calomel, followed by a saline the following morning, was ordered.

The next morning the child was restless, with an anxious countenance, and seemed to be in pain. The mother had not fed it, following my directions, but the vomiting still persisted. The bowels had moved three or four times during the night, the stools consisting mostly, so the mother said, of pure blood. The abdomen was not distended but it was tender and the muscles were rigid. On the left side, low down, a sausage-shaped tumor was present, such as we usually find in intussusception. The diagnosis of intussusception was made and an operation advised. The mother hesitated, and Dr. Carl Weidner saw the case and concurred in the diagnosis. An examination per rectum distinctly showed the invaginated bowel extending possibly an inch; we could feel all the way around the invaginated portion. There was not much bleeding, and I took it to be a favorable case for an operation. I explained this to the mother, but she refused to have anything done, and I withdrew from the case. Another physician looked at the child and told the mother that it would die within three or four hours and left. The family then held a "council of war" and decided to try the efficacy of prayer. Two or three seances were held the following two or three days, and the child rapidly improved.

DISCUSSION.

CARL WEIDNER: The case, as reported by Dr. Frank, is an interesting one to me. The question is whether the child has recovered, and if so, in what manner; whether the bowel has sloughed, or whether it has been relieved spontaneously. I will admit the possibility of a mistake in diagnosis being made at any stage of intussusception, but in this case a very careful examination was made; the child had been bleeding considerably, and had been lying in bed for thirty-six hours with evidences of intense pain; the *invaginated portion of the bowel could be plainly felt by the rectum;* all symptoms were typical, and I hardly see how a mistake in diagnosis could have been made. It seemed to be a favorable case for operative interference.

P. GUNTERMANN: Intussusception in babies is a very difficult matter to determine. If the child gets well, unless the bowel sloughs out and shows itself, I would rather consider it as a mistaken diagnosis. It is not uncommon for children to have slight hemorrhage from the bowels from other causes than intussusception, and if the child recovers without a surgical operation, unless the bowel actually sloughs out, I would be inclined to think the trouble was due to other causes than intussusception.

LOUIS FRANK (continued report): The case reported to this Society at its previous meeting was a case of intussusception and has since died. The exact symptoms I have been unable to ascertain, but from a description given by one who was present, I am inclined to the belief that the child died from perforation and collapse. The bowels had moved, the stools consisting of bloody mucus with a grumous material and slime. The child was much emaciated and there was continued restlessness and pain, with occasional attacks of vomiting. No physician saw it between the time of last report and time of its death. Notwithstanding that pressure was brought to bear upon the family an autopsy was not obtained.

We know that these cases, as has been said, do sometimes get well; they may get well by adhesions occurring between the intussusceptum and the intussuscipiens, the slough separating and being passed out, or cures may take place by spontaneous return of the invaginated gut. However, such methods of cure are rare, and operative interference is preferable to such an expectant plan.

I believe that in this case adhesions had taken place, the invaginated bowel sloughed out and that the case had practically gone on to recovery so far as the intussusception itself was concerned, but that later, the bowel becoming loaded with fecal matter, rupture took place at the point of adhesion. I believe that had the case been under the care of a physician, with the gut in the condition it was after the invaginated portion had sloughed and passed out, it would probably have recovered without operation. Operation, however, is to be advised in all cases of intussusception as otherwise death is the usual termination.

Abstracts.

TUBERCULOSIS OF THE SUPERFICIAL GLANDS.

DR. DE FOREST WILLARD discussed, at the May, 1896, meeting of the American Surgical Association, the subject of tubercular infection of the superficial glands, and stated that the face and neck, being largely exposed to slight traumatisms and eruptions, and but slightly protected by a thin epithelium, furnished a fertile infection-atrium.

He described the course of the lymphatics in their course to the superficial and deep glands. A lymph node is the first filtration station against the invading bacilli, and in many instances is able either entirely or largely to repel the attack. Failing in this, a chain of glands becomes infected, the amount of damage done varying with the character of the poison received, but being especially modified by the resistive power of the individual. This resistive power is markedly modified by personal habits, by the inherent power of cells derived from ancestry, and by temporary conditions; both post and pre-natal conditions enter largely into the question of resistance.

Destruction of micro-organisms may result in caseation, but the spores, though latent, retain their infecting power for a long time, and ultimately affect the general constitution.

A tubercular infected gland is a constant menace to the constitution, and watchfulness on the part of the guarding element is the only hope of escape. Removal is the safest and surest means of getting rid of this dangerous focus.

The operation of excision in the neck frequently becomes a most formidable one, owing to the presence of the large vessels and nerves in this region. Exposure should be free. In the superficial area removal of the infiltrated surrounding connective tissues should be practiced, but in the deep structures the line of capsule cleavage surrounding the glands should be closely followed. The facial nerve should be carefully avoided. Should it be injured, it should be sutured at once; but even suturing will sometimes be followed by the most annoying paralysis. Care should be exercised as to the pneumogastric and phrenic nerves; they should not even be lifted from their beds if this can be avoided. A blunt pair of scissors and a blunt dissector to sever the adhesions will in the deep tissues render great service. Injury to the large veins should be followed by lateral suturing or ligation.

When enucleation has been practiced and a clean sterile wound secured no drainage is required. When there has been extensive suppuration it is better to drain until the first or second dressing.

In old suppurative cases complete excision is impossible, but partial excision and curetting will remove sufficient material to enable nature to conquer the remaining infiltrated cell elements, if such operation is supplemented by hygienic measures.

Should infection of the glands which have escaped at first operation take place success may be secured by repeated efforts.

In cases which refuse operation incision and curetting may finally accomplish a cure, although the treatment will be tedious.

Iodine used internally and applied to the granulation tissues externally is most useful, but the form of stimulation to sluggish granulations must be changed from week to week. Iodine is more vigorous than iodoform. Internal medication, good air and food are absolutely essential in both operative and non-operative cases.

Extensive suppuration sometimes is useful in destroying bacilli, and gives the system a chance to rally, but after a long trial of both operative and non-operative plans the author is satisfied that cases not subjected to operation have become tuberculous, or have died in far larger proportion than those from whom the glands have been removed.

A trial of sero-therapy was advised.

DIPHTHERIA ANTITOXIN IN AN INFANT FIVE DAYS OLD.

Koenig and Moxter (*Zeitschrift fur practishe aertzte, 1896, No. 1*) were called to a child, 4 years of age, on July 2, who was suffering with diphtheria of the throat of five to six days' duration. A full dose of Behring's serum No. 3 was at once injected. Rapid improvement followed, and in a few days the membrane was thrown off, and convalescence was soon established. On July 17, the mother had given birth to a healthy boy baby, which had been allowed in the room with the sick child up to the time the doctors were called. It was a bottle-fed infant. On the 22d of July the baby was reported ill, pharynx was reddened, tonsil of right side swollen, and a diphtheritic spot the size of a lentil was visible on its anterior surface, surrounded by a reddish zone. The authors decided on treatment by antitoxin. Injection of Behring's serum No. 4 was made into the right thigh, the quantity being 1.5 c. cm. Next day there was no reaction to be noticed at site of puncture ; the child was quiet and took its milk ; the membrane was still present, but had not increased. On July 24, there was little left of the inflammatory signs, and these only in the immediate neighborhood of the much-diminished membrane. Two days later the child was perfectly well.

REDUCED PERIOD OF INTUBATION BY THE SERUM TREATMENT OF LARYNGEAL DIPHTHERIA.

Edwin Rosenthal (*M. & S. Rep., 1896, lxxiv, 671*) concludes, after using the serum treatment the last eighteen months, as follows :

1st. The duration of intubation varies.

In the cases quoted, extubation had been made in from one-half to 408 hours. The rule, however, in the majority of cases had been that final extubation can be performed within 120 hours.

2d. The average length of intubation has been reduced to a marked degree.

EUROPEAN OBSERVERS.

Bokai	18	hours.
Von Ranke	$25\frac{1}{2}$	"
Huebner	63	"

AMERICAN OBSERVERS.

O'Dwyer	67	hours.
Fischer	$68\frac{1}{10}$	"
Rosenthal	$71\frac{1}{6}$	"

3d. The operation of tracheotomy is avoided, intubation being sufficient to cure even the long cases (five days and over), and there were no symptoms necessitating such a procedure.

4th. The use of serum has placed intubation on a definite basis by

(a) Lowering the mortality.
(b) Shortening the period of intubation.
(c) Avoiding the major operation of tracheotomy.

WHEN SHALL ALCOHOL BE GIVEN TO CHILDREN?

Grocz (Budapest) (*Centralblatt für innere Medicin Vol. 17, No. 21*) warns against the abuse of giving children wine or brandy in an unsystematic way and in reckless doses, as also against the early use of alcoholic beverages. Besides reporting two cases of acute alcoholic intoxication, which evidenced itself in a comatose condition and severe tonic and clonic convulsions, he mentions severe dyspepsias, cases of epilepsy and chorea as the sequel of an early abuse of alcohol. A certain number of neurasthenic conditions in children are to be traced to it. There are only two effects of alcohol to be made use of therapeutically—namely, its stimulant qualities on the heart and as a preserver of tissue. In its first property it may be a direct saver of life, in cases where a sudden collapse of strength and rapid heart failure makes its appearance; also in acute infectious diseases, in the collapse of infants suffering from intestinal troubles and in great loss of blood. As a conserver of tissue it may be given in chronic complaints which have a tendency to gradually weaken the system (rhachitis, tuberculosis and scrofulosis.) As a general rule the principle should be adhered to that alcoholics be only given children for therapeutic purposes, and exclusively for the above indications.

A CASE OF LARYNGEAL DIPHTHERIA OF GRADUAL ONSET IN A TWO-YEAR OLD CHILD—INTUBATION; COMPLICATED BY HERNIA OF RIGHT LUNG DUE TO PARTING OF THE FOURTH RIB FROM THE COSTAL CARTILAGE—RECOVERY.

J. Madison Taylor (*Phila. Polyclinic, 1896, v, 232*) reports this case: A small mulatto girl, of two years and three months, came to the Polyclinic Dispensary suffering from laryngeal cough, with cervical adenitis, and received treatment for several days, growing steadily worse; dyspnea became extreme, and Dr. Freeman performed intubation most successfully. The child slept at once and improved steadily, although the cough continued severe. The tube was removed on the eighth day, and all seemed well. Two days afterward the cough grew much worse, laryngeal stenosis increased, and it was feared that the operation would need repetition. The symptoms then were a marked prominence over the upper part of the heart, a hernia of the lung, 2 inches vertically by 1⅝ laterally, over the junction of the fourth rib. This prominence grew less or more with each act of breathing, and it was estimated that the distance between the rib and cartilage was from one-half to three-quarters of an inch. Breath sounds over this prominence were clear, exaggerated vesicular resonance.

Lungs.—Right: Vesicular resonance exaggerated, bronchial breathing in places, percussion higher pitched than the left. Left: Clear vesicular resonance, slight moist rales, cavernous percussion lower pitched than the right. Klebs-Loeffler bacilli were found abundantly early in the case, and in the tube when removed; none was found afterward. There was good recovery. The hernia was strapped with rubber plaster.

ROENTGEN SKIAGRAPHS OF CLUB FEET ; DEFORMITY OF THE HAND ; TUBERCULOSIS OF THE KNEE, Etc.

Dr. De Forest Willard presented at the May, 1896, meeting of the American Orthopaedic Association skiagraphs of a pair of club feet of a boy six years of age. The skiagraph was taken especially to delineate the width of the astragalus and decide whether it could be replaced between the malleoli without tarsectomy.

The results give a clear outline of the deformity and demonstrated that replacement was possible, and subcutaneous section of all the contracted tissues proved the correctness of the diagnosis.

The radiograph showed most beautifully the cause of the internal obliquity of the metatarsals and their relation to the tarsus in cases where the foot has been walked upon for years. The 2nd, 3rd and 4th metatarsals were actually dislocated inward so that they overlapped to nearly half of.their diameter. They were widely separated from the 1st metatarsal, which had become also partially dislocated toward the inner side of the foot, its relation to the cuneiform being greatly altered.

This condition showed plainly the serious obstacles to be overcome in the correction of this difficulty in old cases of varus, and confirmed the necessity for early treatment. These cases should never be allowed to walk except upon the sole of the foot. The epiphyses of the bones of the leg and foot were most beautifully delineated.

The next skiagraph was taken from a child three years of age, who possessed five tiny protuberances in place of fingers at the end of the metacarpal bones ; viewed externally the bones of the carpus and meta carpus were normal, but under the action of the Roentgen rays, which clearly disclosed the bones of the forearm, the hand was found to consist only of cartilaginous pieces which may or may not ossify later. The skiagraph also showed the difference in the density of the muscles and of the subcutaneous fatty tissues.

Another radiograph was taken from a man, thirty-eight years of age, who had suffered with slow, tubercular inflammation of the knee for nearly two years. The condition had been quiet for a year and the shadowgraph was taken for diagnostic purposes to decide upon the safety of cautious attempts at manipulation. The antero-posterior view showed the outlines of the tibia and femur clear, smooth and distinct. An attempt was accordingly instituted under ether and the knee flexed to a right angle. No inflammatory symptoms followed the operation. The operation will be repeated.

The second skiagraph was taken of a tubercular knee which had become anchylosed without suppuration for the purpose of deciding whether it was safe to undertake operation for the restoration of motion.

The two skiagraphs brought into marked contrast the two stages of bone destruction which goes on in cases of tubercular disease. The patient had had symptoms of tubercular ostitis for ten years, and the limb had become fixed in the straight position.

The shadow view anteriorly showed marked erosion not only in the condyle but throughout the whole articular surface of the femur and tibia. Laterally the erosion of the bones was very marked. The patella was also found to be fastened to the femur by a bony growth. Partial posterior displacement of the tibia was also evident. Destruction of the joint was very great, and the attempts to secure a movable joint were abandoned lest further inflammatory trouble should be awakened.

Dr. Willard thought that the use of these rays for the purpose of diagnosis and treatment would soon be of the greatest value.

SEQUALAE OF INJECTIONS OF DIPHTHERIA ANTITOXIN.

Sevestre and Mery (*Wiener Medic. Wochenschr, Vol. 46, No. 20*) say that the occurrence of urticaria-like wheals, which make their appearance soon after the injection, is already well known, and is of no great importance. Less frequently, but more severe, are a number of symptoms which make their appearance some little time after the inoculation. Between the eleventh and fifteen day—more usually on the thirteenth day after the injection—fever and vomiting was observed. Soon after, pain was experienced in one or more of the joints. A polymorphous exanthem, resembling that of measles or scarlet fever, gradually extended over the skin, either alone or in conjunction with the urticaria-like eruption. The patient becomes very restless, delirious, and sleep is disturbed. Albuminuria frequently recurs. In exceptional cases an erysipelatous eruption was found at the site of puncture, or on other parts of the body. After three to five days these appearances vanished, and a feeling of lassitude only was left. These symptoms should not be considered as directly due to the antitoxin, as they do not make their appearance in uncomplicated cases, and are only observed in that form of diphtheria complicated with a streptococcus infection. Injections of

Marmorek's serum checks these symptoms, either altogether, or they occur in a lesser degree. It seems likely that the injection of the serum acts as a causative stimulus on the streptococci present in developing these symptoms.

TREATMENT OF POST-SCARLATINAL DROPSY IN CHILDHOOD.

F. SCHMEY (*Allgem. Medic. Central. Zeitung, 1896, No. 1*) has for ten years followed successfully the plan here given in numerous cases. The child is wrapped from head to foot in a wet sheet, then tightly wound in a woolen blanket. The patient now receives every hour a teaspoonful of Syr. Jaborandi (Preparation: 0.3 grm. fol. jaborandi are heated in a steam bath with 20 grm. water for ten minutes, the strained liquid filtered and 10 grm. of sugar dissolved in it by boiling) until free perspiration takes place. Only then is he freed from his coverings. This is to be repeated daily until the oedema has been removed, which usually is effected within two to three days. There have never been any annoying consequences. In children over fifteen years old, he gives pilocarpine hypodermatically, and places the child in a hot bath before packing in the sheet.

ON THE TREATMENT OF WHOOPING COUGH BY PHENOCOLL HYDROCHLORATE.

A. M. VARGAS (*Therapeut. Wochenschrift, Jan. 5, 1896*) has used every medicine and procedure that has until now been recommended, but in no instance has he seen such a rapid and notable effect on the cough as with phenocoll hydrochlorate (amidoacet paraphenetidin), whose action is a marked one, not only as regards the intensity and number of cough paroxysms, but also on the duration of the disease. Indirectly this treatment has a beneficent influence on the dangerous complications often meet with in this affection. After trials by Tripold and Modigliano, Dr. V. began using this drug in doses of 1 to 2 grms. in twenty-four hours. He reports the following case: In a family of four children, the oldest, a girl of seven years, caught the disease and infected her younger brothers of six years, four years and eleven months. All four children of the family often had their paroxysms of cough at the same time, and the number of attacks frequently reached 20 to 24 in a day. Chloral, belladonna, bromoform and quinine were given the three older children. The youngest was given phenocoll in mucilage, the dose being 0.15 grm. every two hours. Within twenty hours the paroxysms had diminished in frequency and number. The mother seeing the good effects, gave the older children the same remedy of her own accord, as she saw no good effects from the other remedies prescribed, and soon a noticeable improvement also occurred in these.

Between February, 1894, and June, 1895, the author has successfully treated 42 cases.

The dose of phenocoll is from 0.07 grm. to 2 grms. daily. It was usually given in mucilage, or in a watery solution, as it is soluble in 17 parts of water. The action of phenocoll in whooping cough seems to be in checking directly the convulsive character of the cough. Within six to twelve hours this effect begins to show itself, and in 24 hours is plainly seen. During the first two weeks, however, this effect is only a passing one, for on leaving off the remedy the paroxysms would gradually return, and a permanent cure was only produced after exhibiting the drug again.

It seems without doubt that there are two factors at the basis of whooping cough, a bacterial and a nervous one. The former probably is the primary cause on which the other is grafted. The visceral complications are to be looked on as secondary symptoms, produced by changes in the blood vessels. Just so are to be considered the later infections by strepto, staphylo and pneumo cocci. Phenocoll does not act as a germicide in whooping cough, but as a sedative to the trigeminus and the laryngeus superior. Lastly, the writer makes an energetic protest against the air treatment of whooping cough. His objections are that the child does not receive the necessary rest which is needed to its recovery, and lung complications are very apt to appear, owing to the change of temperature to which it is exposed. A second great danger is the impossibility of isolating the child under the latter treatment. If stringent measures are necessary for the prevention of the extension of measles and scarlet fever, it certainly seems logical to prevent infection from whooping cough, which has as high a mortality as typhoid, and in some countries even a greater mortality than measles.

The following conclusions were arrived at:

1. All therapeutic means against whooping cough had the object in view to prevent the mechanical disturbances of the great blood vessels produced by the cough, they being the source of the brain, lung and bowel complications.

2. Amongst all the different local, sedative, hypnotic, bactericidal or toxic remedies which were used, not one, with the exception

of phenocoll, has reduced the intensity and frequency of the paroxysms as well as of the complications.

3. In all of the 42 cases treated with phenocoll, the good results were noticeable within 12 hours; in some cases the number of the paroxysms was reduced only on the following day.

4. Even in very young children, and in complicated cases, this remedy produced neither nausea, nor vomiting, nor collapse, nor any other disagreeable consequences. The best way of administering phenocoll is in a solution of gum arabic or simple water, the dose being 1-2 grm. a day. It is very quickly excreted, beginning within 20 minutes after taking, and within 15–20 hours completed.

5. The action of phenocoll seems to be confined to reducing the number and intensity of the attacks, acting as a sedative and not as a bactericide.

6. The open-air treatment of whooping cough is to be condemned on account of its uselessness and danger.

TWO CASES OF SUBCUTANEOUS EMPHYSEMA DURING INTUBATION.

Bauer (*Jahrbuch f. Kinderheilkunde, 1896, xli, No. 1*) reports two cases. These two cases are taken from 800 cases of intubation in Bokai's Kinder Krankenhaus. The ulcerating of the wall of the trachea could not have been the cause of the subcutaneous emphysema, for the reason that the final extubation was easily accomplished, which is never the case in the imbedding of the tube. Besides, the tube did not remain longer than two to three days in the trachea, while to produce an imbedding four to five days are necessary; lastly, a very deep depression produced by the tube is a very rare thing.

Undoubtedly the complication during intubation was produced through an alveolar rupture, which often happens when expiration is in a high degree labored, or the inspirations are made very vigorous. In the first case, there were frequent attacks of suffocative dyspnœa, with noticeable flapping of loose membrane, followed suddenly by a severe paroxysm of coughing, during which the tube was expelled, and following it a membranous cast 10 cm. in length, showing the first and the second branchings of the bronchus. On the following day the emphysema made its appearance. Hence the membrane, loosened by the tube or otherwise, by partly occluding the lumen of the tube with every expiration, caused such paroxysms of cough that the tube was forced out. The coughing up of the rather heavy tube—blocked by the pseudo-membrane—may have caused such an air pressure on the lung tissue that a rupture might easily have occurred. Still easier might the emphysema have been produced in the first case, where, on account of a previous pertussis, the alveolar wall must have lost some of its elasticity ; in this case, too, the tube was expelled during a severe coughing spell, its lumen occluded by a thick pseudo-membrane.

REPORT OF SIX CASES OF DIPHTHERIA.

Alfred Whitehead (*Maryland M. J., 1896, xxxv, 147*) reports six cases of laryngeal diphtheria, all of which recovered after the use of diphtheria antitoxin. Three required intubation of the larynx. In no case was the diagnosis confirmed by bacteriological examination.

ON THE MICRO-ORGANISM OF MEASLES.

J. Czajkowski (*Centralbl. f. Bacteriologie ú Parasitenkunde, 1896, xviii, No. 17-18*), referring back to his published experiments in 1892, reports a number of recent investigations which he believes led him to positively find and cultivate the bacillus of measles. During four epidemics, he examined the blood of 56 patients, of which 37 specimens were subjected to only a microscopical examination, while in 19 cases cultures were also made. He found, corroborating Cannon and Pielicke, rather thin bacilli of different lengths (0.5 u up to the size of the diameter of a red blood-corpuscle ; in older cultures there are found besides "long threads"). In the suspended blood-drop the micro-organisms are seen extra-cellular. They are stained by all aniline dyes, although irregularly so. The cultures thrive in different culture mediums, not, however, in gelatin and agar. An addition of blood or Hommel's haematogen facilitates their evolution. In a solid culture medium the cultures appear on the third or fourth day, in form of tiny dew-drop colonies, which run together and appear under the microscope as transparent drops without a skeleton. Most fortuitous for the development of the measle bacillus is a fluid culture medium (bouillion, or sterilized serum from the abdominal cavity). The cultures here appear as a heavy sediment, in its younger stage of a white, in older stages of a yellow grayish shaded color. The bacilli thrive at the temperature of the blood; whether they are affected by other temperatures was not tried. Rabbits are immune to this micro-organism; mice die on the third or fourth day of septicaemia from a subcutaneous injection. From the blood, spleen and liver the bacillus could be recovered in pure cultures.

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Original Articles.

DIAGNOSIS OF POTT'S DISEASE OF THE SPINE.

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THE diagnosis of Pott's disease of the spine is occasionally a matter of difficulty, especially so when the affection occurs under conditions which vary somewhat from those met with in the ordinary run of practice. The age of the patient not infrequently is a source of error, the nature of the resulting distortion of the spinal column may also lead the investigator astray, and again the general condition of the subject may be a deceiving element.

A child, from 2 to 8 years of age, of poor condition, with an absence of juvenile vitality both in facial expression and in bodily movement, protesting loudly against any rough handling during the process of being undressed, with a spine which, when bared for examination, exhibits a backward displacement, to a greater or less degree, in the middle or lower dorsal region of the column, in such guise perhaps 90 per cent. of the cases make their first appearance before the surgeon. The diagnosis of Pott's disease is here arrived at almost at a glance, but let there be but a slight variation in the details, and the too hasty observer may be easily deceived. A child, say, 4 years of age, is presented for examination, badly nourished, sluggish in movement, of downcast expression and fretful disposition, disinclined to play with his companions, and with a spine in which three or four of the spinous processes of the lower dorsal vertebrae are abnormally conspicuous. Here are symptoms, the age, the general condition and the existence of displacement of the spine at a spot frequently selected by the affection, which may well induce the observer to decide that the case is one of Pott's disease. The chances are that such a decision will be correct, yet these surroundings may be in evidence unattended by any inflammatory disturbance of the spinal column. A weak atonic subject, deprived of nourishment from want of or from inability to properly assimilate food, living in a locality where pure air and a bright atmosphere seldom prevail, will acquire all the above conditions of health, and will frequently present the local displacement of the spinal column, which has been referred to, the displacement being due to laxity of the ligaments and want of elasticity of the inter-vertebral discs. The correct diagnosis under such circumstances is of the highest importance, since the treatment which will be proper for destructive inflammatory lesion will certainly tend to aggravate the condition of the relaxed spine, while methods suitable for the latter will be most inappropriate if applied to the former. The best indication to rely upon for arriving at the truth is the degree of mobility that is present at the spot where the vertebrae are displaced. When a change of an inflammatory nature occurs in the spine, the adjoining articulations lose their normal degree of mobility through reflex muscular contraction, just as happens in disease of any other joint of the body; in the lax spine of the atonic subject the mobility is, on the contrary, considerably increased, the displacement of the vertebrae backwards being caused simply by the superincumbent weight forcing out of place one or more vertebrae, which are badly braced together. Of course, there is no structural change approaching dislocation, but merely a reversal of the normal anterior curve of the spine in this part. The state of mobility of the different vertebrae can be correctly estimated by laying the palm of the hand and fingers along the suspected region when the spine is bent forward, and then directing the subject to come to the upright position. In a healthy or abnormally mobile spine the separate vertebrae will be felt moving independently one upon another as the column is straightened; if active disease is present, three or four of the bones will move in one mass without any play between them. This is a reliable method of investigation, and is easily applied to ascertain the true nature of these cases. It must be explained that it is only when the spine is being moved by the muscular efforts of the subject that reflex spasm comes into action to assist the surgeon in his examination. To lay the patient in the prone position on a couch and then press with the hand against the displaced vertebrae is useless; under such conditions mobility may be, and probably will be, present even in a case of Pott's disease. The facial expression may also be taken as a guide to help the diagnosis, for a child with disease of the spine not only lacks brightness but exhibits a look of anxiety, while the weak, ill-nourished patient simply displays a countenance of sluggish indifference. When doubt exists as to the true nature of the case, it is advisable to treat the patient for Pott's disease and wait for further developments. If no structural disease of an active character exists, the condition of the patient will become worse under the influence of those protective measures, which are adopted to place the spine in a state of rest, on which point an instructive case will be of use for illustration. A child, 6 years of age, living in a large town, feebly nourished, with wasted and flabby tissues, had marked displacement of the lower dorsal vertebrae, the spinous processes being pushed directly backward. Vertebral caries was diagnosed, a spinal support was applied, and directions given as to general treatment ; the patient did not improve, and recumbency was ordered; further aggravation of the symptoms followed, and the use of a prone couch was decided upon. The parents, having expended a considerable sum on the spinal appliance, a special perambulator and other things, decided to seek further advice. The mechanical treatment was stopped, the child was sent to reside with some relatives in the country, living on chalk downs a few miles from and two or three hundred feet above the level of the sea ; careful dietary was insisted upon, out-of-door life, with a gradually increasing amount of exercise were advised, and in three weeks' time the sickly town child had become a robust little country lass. Here the mistake in the first instance was such as the most careful investigator might well achieve, but the persistence in wrong treatment was scarcely excusable. With these difficult cases it is, therefore, necessary to be very guarded as to the opinion expressed at the first examination, even if pretty well assured that no disease is present it is desirable to give general directions, and insist upon seeing the patient again after the lapse of a fortnight or three weeks, when a correct diagnosis will be obtained without difficulty.

The close simulation of Pott's disease of the spine by a slight bending backwards of the lower dorsal and lumbar vertebrae due to laxity of the ligaments, has been described, and it was pointed out how, by testing the mobility of the column, the two conditions might be distinguished one from the other. The lower part of the spine may, however, be affected in such manner as to render it a task of much difficulty to form a correct diagnosis of the vertebral lesion, and to decide whether the case be one of Pott's disease or of lateral curvature. In the large majority of cases of Pott's disease destruction of the bodies of the vertebrae results in a displacement of the posterior segments directly backwards, but occasionally the bodies are eroded on one or other side and the spine becomes displaced in a lateral direction opposite to that of the seat of disease. This lateral deviation is very seldom developed in the upper part of the spinal column; its favorite seat is in the lower dorsal and lumbar regions; again, the lesion is of slow development, never accompanied by rapid destruction, and makes its appearance at a later period of life than is usual with vertebral caries, the patient being generally 12 or more years of age; moreover it is not accompanied by any notable disturbance of the general health. Now, there is a variety of lateral curvature which almost exactly resembles such a condition of Pott's disease; instead of double displacement of the spine, to the one side in the upper part of column and to the opposite side in the lower, there is sometimes developed a slight lateral curve in the lumbar region only, accompanied by a very marked rotation of the vertebrae, this rotation being the chief feature of the deformity. As with the more common form of double lateral curvature this state of deformity usually commences at about the age of twelve or fourteen years, and the general health is fairly good; such cases being on all fours with the condition of Pott's disease above described.

When seen in the early stages these two varieties of spinal affection may be distinguished from each other by the column being abnormally rigid in the cases of vertebral caries and but little disturbed as to this characteristic in lateral curvature; but when, as too frequently happens, owing to the chronic nature of the lesion, the patient is not seen until the case is in an advanced stage, the spine with lateral curvature also becomes rigid and it is extremely difficult, in some cases it is imposible, to tell the one affection from the other—of course if complications peculiar to Pott's disease arise, such as lumbar abscess, paralysis, or other indication of nerve disturbance, then the matter is cleared up; if the subject happily escapes these further troubles there is very little to guide the surgeon to a correct diagnosis. The writer has had a patient under observation for about eight years with lateral displacement of the lower part of the spine, and cannot now decide as to what is the true nature of the lesion; the girl has been treated for Pott's disease, but has had no serious symptoms of any kind, and all the indications are quite consistent with the existence of slight lateral curvature with advanced rotation of the vertebrae. In another case, which although it occurred in an adult may be noted in passing, the indications were such as to lead the writer to diagnose the existence of lateral curvature, the robust state of health which the subject enjoyed favoring this view of the case, but symptoms of nerve disturbance appeared later which proved clearly that a mistake had been made and that Pott's disease was present. With a doubtful case the safer course is to treat the subject as for the more serious lesion and to carefully guard the spine from all influences likely to promote the advance of inflammatory disease.

An error of diagnosis is likely to be committed when caries of the vertebrae is unaccompanied by distortion of the spine—"Angular Curvature"—that unfortunate and contradictory term, which was for a long time accepted as a synonym for vertebral caries, has much to answer for as a misleading expression, apart from its scientific absurdity. It is quite as possible to have a state of advanced vertebral caries without angular displacement as it is impossible to delineate a curved angle. Here again, as in the cases last referred to, the lesion is subacute or chronic in its nature, the subjects are adolescents or adults, the general health is usually fairly good, but unlike the other cases there are no marked symptoms which shall direct attention to the vertebral column as the seat of disease. The destructive disease is always superficial and affects three or more vertebrae, none of the bodies being sufficiently destroyed to cause backward displacement of their posterior segments. An unusual feature of this variety of Pott's disease is that when any prominent symptoms do appear they are such as are exceedingly likely to mislead the surgeon. A youth whom the writer saw had suffered for more than two years with severe abdominal pains of a colicy nature, together with extreme pain in the course of the left ureter. Some oxalate of lime crystals were found in the urine, and there was much dispute as to whether the case was one of renal or intestinal trouble. At last his father, a well-known physician in London, suspected that the spine might be affected, and asked me to examine his son. I found the lower dorsal vertebrae were wanting in mobility and that there was some flattening of the normal anterior lumbar curve. He was treated as for Pott's disease, the spasms of pain recurred only once, and he apparently made a complete recovery. However, a psoas abscess appeared later, the collection of pus being evidently of old formation, which had gradually descended down the sheath of the muscle on the patient leading a more active life when relieved of the more distressing symptoms from which he had previously suffered. Another case came under notice in which the symptoms had consisted of severe pain in the loins and lower extremities, chronic rheumatism had been diagnosed and various medical springs had been visited to obtain relief. Here again rigidity of the spine was detected, and the patient was advantageously treated as for Pott's disease. He was lost sight of for a time; at length an inquiry came from another practitioner to know what had been wrong, and the information that vertebral caries had existed was received with incredulity. Unfortunately for the subject the diagnosis was confirmed by the appearance of an abscess in the lumbar region. A very similar case in an adult, aged 65 years, is now in the National Orthopedic Hospital. This man, a coachman, had been refused club relief because he was certified as suffering from chronic rheumatism ; caries of the mid-dorsal vertebrae was diagnosed at the hospital, a large psoas abscess afterwards developed, and the patient for a time progressed very well ; he is now moribund, with senile gangrene and paraplegia. It is somewhat remarkable that in these cases of superficial caries, without deformity, the development of lumbar or psoas abscess should be a very frequent result of the disease ; also it is worthy of notice that the sensory nerves are affected by the disease, the motor nerves either escaping altogether or becoming affected at a later stage.

The diagnosis of Pott's disease in the advanced stages is an easy matter, unless the affection assumes certain characters which have been described, but in the early period of the disease, before any visible change has occurred in the column, its presence may be overlooked. The evidence on which we have to rely for detection of the malady consists chiefly of the general appearance of the patient, local pain, interference with normal mobility of the column, and the history of the case. As to the latter, the existence of tubercular disease in the family of the subject, and the record of an accident, are two points which have generally been regarded as of considerable importance. Should the patient also complain of pain in any part of the spinal column, these three facts combined are pretty sure to be accepted as clear proofs of commencing vertebral caries. But no one of these separate conditions is strictly reliable as evidence, and therefore the saying as to the strength of a chain must be held in regard when estimating their value as a combination. Very few families, at any rate in England, could successfully pass a searching inquiry without showing traces of tuberculosis amongst one or more of its members. Again, traumatic influence must not be accepted as of much importance, since children are in the habit of falling and tumbling about, and there can be no difficulty in obtaining a history of previous damage in all cases of Pott's disease, as also concerning every child who is not affected with that complaint. Local pain is a suspicious symptom when complained of over a very limited area and always referred to the same spot, but even then it is not an infallible sign. The writer had under observation for nearly two years a child five years of age, whose mother had died of phthisis, who had, from a height of about ten feet, fallen upon a gravel path, and three months afterwards complained of pain over the fifth and sixth dorsal vertebrae. He was not treated for Pott's disease, and never exhibited any other symptoms of that disorder. In this case the evidence that vertebral caries was about to develop was not accepted, because the child's movements were free and unrestricted, and also a normal degree of mobility was retained in every part of the spinal column. To these two points attention should be chiefly directed in determining what is the condition of a suspected spine; should immobility between two or more vertebrae be detected at any spot, it may in the cases of young children be accepted as a certain indication of commencing inflammatory mischief, either of the bones or of the intervertebral cartilages. It requires a little practice to detect this local rigidity, and the observer should first make himself acquainted with the normal movements by examining the spine of a healthy subject. The gradual unfolding of the spinous processes under the palm of the hand, placed along the spine as the child stoops, and their closing together one upon another as the erect position is assumed, are very characteristic movements; once familiar with these, the slightest absence of play between two or more vertebrae will be detected with certainty.

There is a peculiar facial expression associated with Pott's disease which it is difficult to describe in words; it may, perhaps, be best defined as one of alert anxiety. The child appears to be apprehensive of and ready to avoid sudden movement of any kind. Attendants of examination rooms at the hospitals will have noticed how a parent will grasp a child by the arm and hurry him quickly forward to the surgeon; from such handling, and from similar actions, the victim of Pott's disease will be ready to protect himself, and that without any violent struggling such as other children display merely from fear of what may be going to happen to them. To this feature, and to the presence of local rigidity in the spine, especial attention should be given, and when detected, they may be received as a positive indication of commencing inflammatory mischief in young children.

A CASE OF PRIMARY MYOPATHY IN THE FORM OF MUSCULAR PSEUDO-HYPERTROPHY.

By Joseph Collins, M.D.,
Neurologist to City Hospital, New York.

THE adjoining illustration portrays graphically a most striking example of that form of primary myopathy or primary muscular distrophy known as pseudo-hypertrophic muscular paralysis or muscular pseudo-hypertrophy, a disease which is now fairly well understood, easy of recognition and of classification, although it is but recently that this knowledge has been given to us. This patient is ten years old, the son of Russian-Jewish parentage, and is the youngest of three brothers, all of which are victims to this disease. His two brothers, the oldest being now 17 and the next approaching 15, are in more advanced stages of the disease, the former being in the atrophic stage, which follows the pseudo-hypertrophy, entirely unable to move and with very deformed extremities. The next brother is gradually approaching the physical and mental state of the elder brother. There is no history of a similar trouble to be obtained in the parents' family. This patient is the fifth of six children, the eldest of whom is a girl 20 years old, in good health. Two other male members of the family died in early infancy, one of them from tuberculosis and the other from unknown causes.

This boy began to walk when he was about 2 years old and to talk at about the same time. When he was 5 years old his mother says that he walked very well, although she remembers that the other brothers walked badly from their third year. After the tenth year this little patient began to have more and more difficulty in locomotion, particularly if on other than a level ground, and now he is barely able to waddle, a word which describes typically the gait of these patients, alone. Examination shows the characteristic gait, and when the clothing is removed the striking appearance not alone of the body but of the face. The latter shows the gentle, dreamy, staring expression or absence of expression, which has been fittingly (?) called angelic. The eyelids droop lazily, the alæ of the nose almost motionless in respiration, the lips are in the lightest juxtaposition, and when the patient speaks there is no associated facial movements. He stands with feet wide apart, back hollowed and abdomen thrown forward; the moment he moves the uncertainty of his position and gait is at once manifest. The calves are abnormally hypertrophied and likewise the thighs, the latter to a

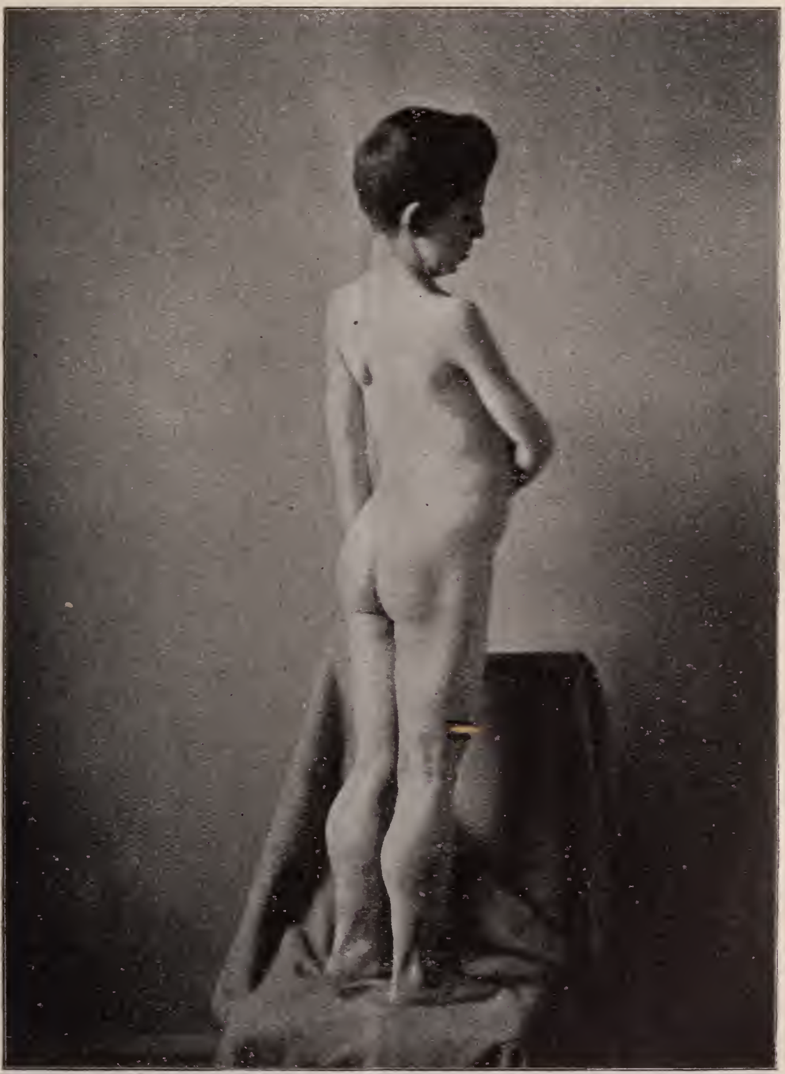

FIG. 1. Muscular Pseudo-Hypertrophy.

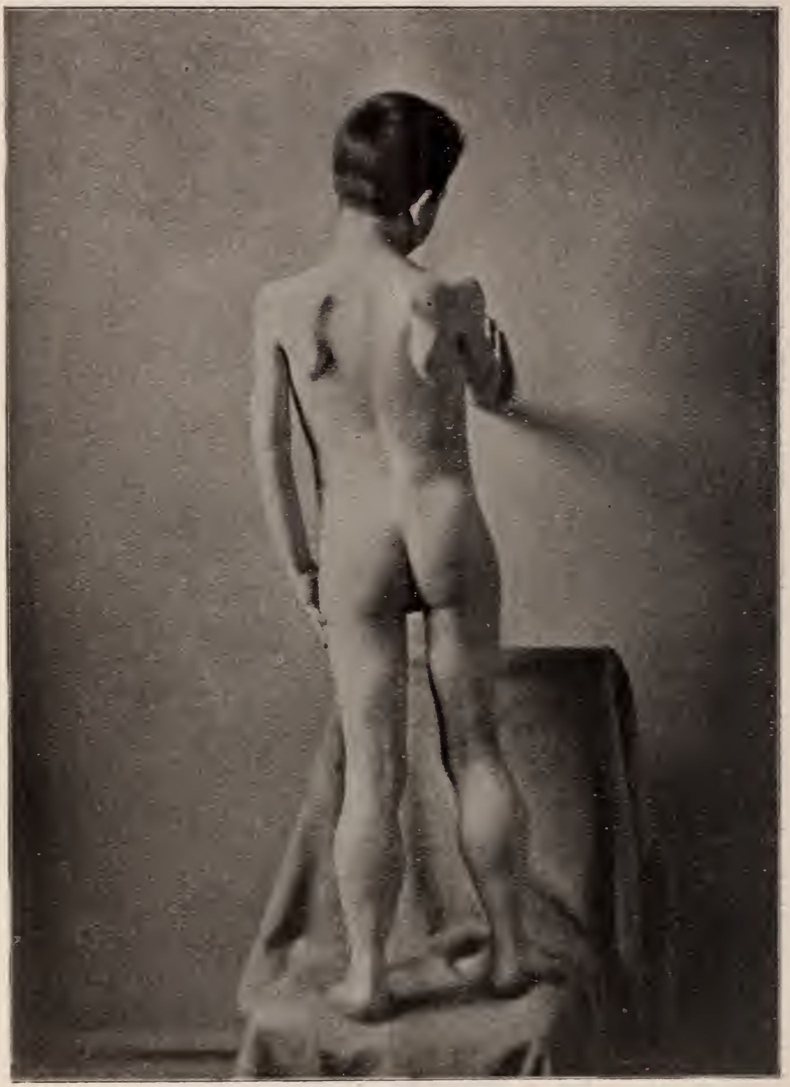

FIG. 2. Muscular Pseudo-Hypertrophy.

lesser extent. The shoulders and upper arm muscles, which were formerly hypertrophied, are now in an atrophic state. The atrophy is particularly manifest in the lower part of the deltoid, the upper part being still somewhat hypertrophic. Myotatic irritability is so diminished that all the deep seated reflexes are lost. There are no sensory disturbances, and the special senses seem to be intact. Until recently the child has gone to school and has been able to make some progress, but latterly the mind does not seem to unfold as it does in children of corresponding years. When the child attempts to go up and down stairs, or to climb in any way, then it is apparent how helpless he is. But this is made more striking still when he essays to rise from the flat posture ; he first turns on the side, then completely over, at the same time drawing up the knees, after which he flexes the elbows and rests on them. The proceedings, from this time on, consist of straightening the arms, which naturally elevates the body from the floor, and then he completes the extension of the body by gradually approximating the hands to the lower part of the leg, and after he has succeeded in getting them there he extends the body by crawling with his hands up the legs until, when they have reached the upper part of the thigh, a quick backward movement of the head establishes the perpendicular.

Electric examination shows a response to the galvanic current in all the muscles, the atrophied and the hypertrophied alike; in the former there is quantitated diminution.

He has been under very constant observation and treatment for the past two years, and unfortunately the disease seems to be, as it is in all of these cases, gradually progressing. By way of treatment he has had the diligent and persistent application of electricity in the shape of galvanism, a form of treatment which never does any real good in all probability, and a faithful administration of all those substances that tend to keep up good nutrition. A theory has been advanced in the explanation of this disease that postulates changes or premature atrophy in the thymus gland as the causative, and experimentally the extract of the thymus gland has been given to him with considerable persistence, but with no benefit. The disease is really a true tropho-neurosis, the result of or consequent on defective protal formation in the trophic centers, and its cure lies in its prevention.

In remarking on this case it is perhaps superfluous to say that the disease affects the male child more often than the female, that the familiary evidence is always to be obtained, and that the disease is transmitted invariably through the mother, and that eventually the disease may terminate after a variable time, from ten to twenty years, in the juvenile form of progressive muscular atrophy and generally with great deformity, or in death from intercurrent disease or gradual dissolution.

PEDIATRIC THERAPEUTICS AS PROVEN BY EXPERIENCE.*

By JOHN A. LARRABEE, M.D.,
Professor of Diseases of Children in the Hospital School of Medicine, Louisville, Ky.

"*Prove all things, hold fast that which is good.*"

IT occurred to me that, as we meet in these delightful reunions like soldiers around our camp-fires, to discuss the strategic approach of the common enemy of man and learn more of the habits of disease, we might also derive profit from a careful examination of our weapons and while we recount our hand-to-hand encounters we might "pick our flints and sift our powder."

The necessity of therapeutic retrospection is rendered more imperative by the polypharmacy of the age in which we live. New remedies are multiplied with such rapidity that the "up-to-date" doctor must needs be a stirring man.

Theories born of the hour, dressed in the gaudy colors of their ambitious projectors succeed each other upon the stage with the rapidity of a moving panorama, but ere they dissolve "in the viewless air" others equally plausible are launched to share a similar fate. The modern doctor's office becomes a veritable receptacle of the most incongruous concoctions, while Greek and Latin lexicons are ransacked for affixes and suffixes which shall suggest to him a pharmacist's therapeutics. The regular practitioner is in danger of lapsing into a selector of proprietary medicines. Bottles containing elements from the three kingdoms are made to suit a case in which perhaps one of the ingredients is indicated. Toxines, heil-serum and antitoxins are now so arranged that like Artemus Ward's celebrated wax figures they will do for several different conditions at the same time. The Loeffler bacillus and the streptococcus of erysipelas may do well together in harmony in one bottle so that if it should turn out that the patient had something else it would be equally suitable for either one or for both. It is not my purpose to bring reproach upon our ally, the pharmacist, to whom we are greatly indebted for very many elegant compounds. I desire, however, to emphasize the importance of prescribing simple and single medicines for their effect based upon their physiological action. This administration of medicines with a correct knowledge of the length of time required for their elimination is an important matter in infantile therapeutics. I am satisfied from long and careful observation that, in the great majority of instances, the directions given on the phials and powders dispensed are based upon an arbitrary division of time rather than upon a scientific foundation. I frequently see such errors as this—carbonate of ammonia in full therapeutic doses given every 4 hours, or an opiate given every 2 hours. An opiate is seldom indicated in infancy, but when necessary it must be remembered that its elimination is slow and uncertain, that both secretion and excretion are checked by it and that fatal narcotism may be produced by a perfectly legitimate dose if given at short intervals. Most of the fatalities from opiates in my experience have been thus produced.

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* Read before the American Medical Association, at Atlanta, Ga., May, 1896.

Another matter of scarcely less importance is the value of small and frequently repeated doses. There is a therapeutic and a toxic effect to all medicines. These effects vary greatly with the dose, so that we may obtain widely different results from the same drug. A dose of tincture of aconite may be said to be two minims. A dose of arseniate of copper may be from 1-100 to a 1-50 of a grain; but these doses when spread over the 24 hours may have a beneficial effect, when a single full dose would fail entirely in therapeutical effect.

I have obtained most beneficial results in entero-colitis from 1-100 of a grain of arseniate of copper in a four ounce solution, using a teaspoonful every 15 minutes. A ¼ grain of tartar emetic dissolved in a pint of water, a teaspoonful every half hour, has controlled cerebral symptoms when the toxic dose would have increased the discomfort of the patient. In acute tonsilitis small and frequently repeated doses of aconite and belladonna have been successful.

Another reason for the necessity of comparing notes in therapeutics is that whatever may be said of the advance in medicine and the strides made in pathology, the practice of medicine will always be empirical. We give medicines for the cure of disease for the reason that they have been found beneficial and not from any a priori reasoning. No amount of philosophy would have suggested quinine for ague, colchicum for gout or the salicylates for rheumatism.

Therapeutic Incompatibilities.—Perhaps one of the most pernicious outgrowths of polypharmacy is the compounding in mixtures or tablets of medicines diametrically opposed in physiological action. I desire here to make a plea for simples as against compounds. Suppose it should be thought necessary to give a heart stimulant. We review the fixed physiological action of the cardiac drugs. Digitalis for arterial recoil; strophanthus for ganglionic stimulation; cactina for disturbed rhythmical action; nitroglycerine for aspiration of the over full ventricle; belladonna to impress the check nerve and to stimulate the sympathetic; strychnia for a stimulant to the spinal cord. How absurd to have one tablet containing all of these drugs. When digitalis is indicated, nitroglycerine is contra-indicated. Suppose you really want nitroglycerine or amyl nitrites, how much benefit do you suppose you would get in a tablet a week old? But of all heterogeneous compounds, cough mixtures and expectorant tablets are the most absurd. We have in one mixture astringents for relaxed mucous membrane; ipecac to promote expectoration and opium to check it; senega to stimulate; aconite to quiet, and hyoscyamus and squills with an alkali. The fact must necessarily dawn upon every intelligent practitioner that he is gradually losing the art of prescribing.

Antiseptics.—The value of antiseptic medication is becoming better established year by year. The feebler digestive power renders childhood a very fertile field for fermentation, and consequently ptomain poisoning. By far the most frequent departures from health are connected with disturbances in the alimentary tract, giving rise to sudden high temperature and often grave disturbances of the nervous system. To inhibit such action or correct the consequences, constitute an important field in pediatrics. In infants with lactic acid fermentation in the stomach, or with putrefactive changes in the intestines, listerine and boro-lyptol are excellent, after removal of the cause by enemata and purgation. Carbolic acid is held in widely different repute by physicians, because in the majority of instances in which it is prescribed, we obtain a partially oxidized product. Great care is necessary to obtain a pure and nascent phenic acid. In the preparation of De Clat, the phenic acid is retained in its nascent state by a heavy syrup. Salol, at one time believed to be the ideal intestinal antiseptic, must be used with caution.

Guaiacol has proven to be an ideal intestinal antiseptic. A pure preparation has had a faithful trial in my practice for the last year. It has stood the test of time and has done good service in typhoid fever as an apyretic, in ameliorating unpleasant symptoms, and in hastening recovery. It has been my custom to give the mercurous chloride in small and frequently repeated doses, and to give the guaiacol in strong mint water, preferably creme de ment, every three hours. In cases of very high temperature I apply it locally over an area of several inches. A rapid and often marvelous effect upon the temperature usually follows.

Since we have been able to distinguish the so-called remittent fever of childhood from malarial fever, and classify it, where it has always belonged, with typhoid fever, we have been able to make earlier diagnoses and consequently give better treatment. Many physicians are content with the so-called expectant plan in enteric fever ; but it appears to me better to prevent complications from arising.

The opposition to the so-called Woodbridge plan of treatment has, as I predicted, resulted in the establishing of the truth of his claims so far as intestinal antisepsis is concerned, although the claim to priority in this treatment may properly be questioned, as it is difficult to understand how the principal agent used by Dr. Woodbridge should have been used by him ten years prior to its discovery. The turpentine plan of the Eder Woods, the creosote plan of still greater antiquity, are all attempts in the same direction, and it is a question if any one of these, faithfully carried out, would not be equally advantageous.

Coal Tar Products.—The introduction of the so-called antipyretics for the reduction of high temperature was hailed with delight and in a short time they supplanted all other methods, until by their injudicious use some were wiling to discard them entirely from infantile therapeutics. Here, as everywhere, truth is found between the extremes. They must be used in small doses, and their greatest value has been for the relief of pain, having largely supplanted opium for this purpose. It would be hard to overestimate the good they have accomplished in driving from the nursery this harmful drug. The result of my experience is that they are indispensable agents in infantile therapeutics.

Diphtheria Antitoxin.—I am satisfied that by the use of antitoxin I have saved cases of diphtheria which otherwise would have died. I am also satisfied that I have seen deaths after antitoxin that were not due to diphtheria. I have also witnessed after antitoxin injections the cutaneous eruptions and joint affections not ordinarily attributed to diphtheria. To be effectual, my experience agrees with others that it must be used early. The fact that the treatment enables the practitioner to dispense with throat swabbings, sprayings and other local applications is of no small importance in practice among children. I have seen the dreaded laryngeal stenosis yield to the serum treatment without instrumental interference

My practice has proven that it is not a specific for diphtheria but that it is an agent of great value.

Asafoetida.—My excuse for calling attention to such a well known nursery remedy is that in the multiplicity of diffusible stimulants it is apt to be overlooked. The tincture, combined with milk of magnesia, is the best remedy for the distressing colic due to intestinal acidity and constipation; its administration by mouth and its evacuation by anus is of diagnostic value in suspected obstruction or intussusception. In catarrhal pneumonia or capillary bronchitis it is exceedingly valuable, given in alkaline or soapy enemata, as a diffusible stimulant.

Emetics.—In pediatric therapeutics emetics have fallen into undeserved discredit. As a consequence stomach-washing has grown into favor. This latter plan is no more effectual, and is attended by considerable difficulty and is not entirely free from danger. Over-eating is a frequent condition, and for it small doses of calomel, followed, if necessary, by a cathartic, are in favor: but an emetic with copious draughts of luke-warm water will do the work at once. I have so often seen school headaches treated by bromides that it seems to me we have drifted from our therapeutic principles. Non-depressing emetics are of great value in preventing atelectasis in infantile bronchitis and in pertussis. Turpeth mineral answers the purpose so well, and the dose required so small and convenient, that it has supplanted all other irritant emetics. In catarrhal laryngitis and tonsilitis cynache nauseant emetics are indicated, bu syrup of ipecac should be discarded as slow, uncertain and ineffectual. The wine is made from the fluid extract, and can be depended upon. Antimony should be banished from the nursery, although in children it is often more beneficial in controlling brain symptoms in meningitis, and such inflammations as orchitis and parotiditis, than either aconite or veratrum. A good plan is to give 1-200 to 1-150 of a grain every half hour until slight nausea is produced.

Hydrotherapy.—As a procedure, endorsed by all physicians and practiced by few, notwithstanding its great advantages it is overlooked too often. The wet pack at a temperature of 98½° is preferable to emersion, and is applicable to all febrile disturbances. In convulsions, ushering in some of the exanthemata, the best results follow the long-continued pack. In the cerebral form of pneumonia, the pack is also preferable to the bath. For this purpose the child should be stripped. A sheet, folded to correspond to the length of the body and wrung out of hot water, should be placed upon a light woolen blanket. The child is then rolled up like a mummy and the woolen cover closely applied over all. It is not sufficient to say that water is allowed infants in all acute febrile diseases ; but it must be urged to take it freely. In bronchitis and pneumonia, water is the only expectorant required, and must be given without stint.

Belladonna.—In order to obtain the desired effect from belladonna, very small doses should be given at frequent intervals. When given in this manner in fevers or hypodermatically in cholera infantum and pernicious intermittent fevers, it has proved a most valuable remedy. As a stimulant to the respiratory nerve centers it has a place in pneumonia, and in enuresis it gives excellent results, if the doses are increased until a toxic effect is obtained. This is also true in the treatment of pertussis with belladonna. To augment peristalsis, it should be used in suspected fœcal or mechanical obstruction of the bowel. In the so-called spurious hydrocephalus, it is beneficial in maintaining cerebral vitality. I have many times by its use averted coma in typhoid fever after Cheyne Stokes respiration was present.

TWO FATAL CASES OF HEART DISEASE IN WHICH THE CARDIAC MUSCLE WAS ALONE INVOLVED.

By George Carpenter, M. D.,
London,
Senior Physician to Out-Patients, Evelina Hospital for Sick Children, London.

ELLEN MARY B., aet. 9 years, was admitted under my care at the Evelina Hospital on Sept. 2, 1895, with the following account. She had always been a delicate child. About January her abdomen began to swell and continued to gradually increase in size. She suffered from shortness of breath. Her mother gave the following account which, for convenience, I epitomize: "Pain in epigastrium after food"; "getting thin"; "passed green colored urine for a fortnight"; "brought up a little blood from the stomach now and then"; "used to get blue in the face, suffer from shortness of breath and want to sit down after a little exertion"; "complains of her heart."

A brother and sister died from "dropsy and large livers." Her father was in an asylum and suffered from heart disease.

On admission, she was found to be a bright, rosy-cheeked child, well nourished, and with an obviously pulsating liver. She was not dropsical. Her pulse was 112 to the minute, the respirations 46 to the minute, and her temperature was normal. The urine was free from albumin and her bowels confined.

Heart.—The impulse was not very defined; it was in the fourth interspace, one-half an inch outside the nipple line and a suspicion of a thrill was detected there.

The area of dullness commenced at the third left costal cartilage and extended one-half an inch to the right of the right sternal margin. A bruit was not detected.

Lungs.—No abnormal sounds were heard.

Liver.—The liver was not painful to touch. Its free edge was a hand's breadth below the costal margin in the nipple line and showed marked pulsation.

Spleen.—The spleen was not enlarged.

A regurgitant venous pulse was detected in the veins of the neck. She was ordered a mixture containing 10 minims of tincture of digitalis every 6 hours, her bowels having been previously opened by an ounce of compound senna draught, and she was placed on a milk diet. Whilst under observation she slept well and took her milk well. Once she complained of abdominal pain. On several occasions she said her left leg hurt her. She had paroxysmal attacks of facial cyanosis, sometimes her lips were blue and sometimes the face was flushed. The highest pulse record was 120 to the minute and the most frequent number of respirations 46 to the minute, on admission; but they were found to be irregular on the 9th of September. On this date a note appears to the effect that the pulsation of the liver was not so marked and the liver dullness was not so low. Several examinations of the urine had been made, but with a negative result.

At 8.45 p. m. on the 11th she suddenly became worse, the limbs were rigid, the eyes fixed and the face very blue. The pulse at this time was imperceptible at the wrist and, in spite of hypodermic injections of brandy and other cardiac stimulants which were administered, she did not improve and died ten minutes later.

Autopsy.—The lungs were intensely dropsical. The pericardium contained about three ounces of clear fluid. The heart weighed nine ounces. The left ventricular wall was pale, hypertrophied, and showed tabby-cat striation. The left auricle was dilated, thin and pale. The endocardium was smooth, but opaque and puckered as though from underlying mischief. The mitral valve showed haemorrhages at the root and in the valve itself. The aorta presented patches of atheroma above the left coronary artery. The mitral valve admitted three fingers. The right ventricle was considerably dilated, pale, and showed tabby-cat striation. The right auricle also was much dilated and its muscle pale.

The peritoneal cavity contained about half an ounce of fluid.

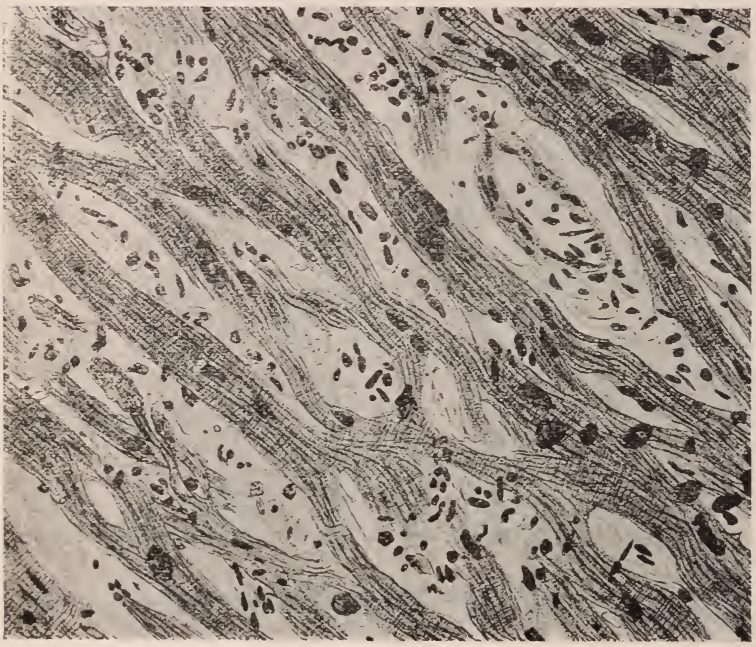
The liver, which was "nutmeg," weighed two pounds fourteen ounces.

The kidneys, which weighed seven and a half ounces, were much injected; they were hard, leathery, and very heavy, the capsule stripped readily and the glomeruli was seen to be much injected and the vessels of the medulla stood out prominently.

The spleen was not enlarged; the malpighian bodies stood out prominent and white.

The stomach was chronically congested.

Microscopy.—A specimen was examined which had been preserved in alcohol for some weeks. The muscular fibres, for the most part, showed peculiarly well marked finely granular striae arranged longitudinally; in places the transverse striae were well or fairly well marked, but in others they required very careful focusing for their detection. Transverse striation showed to better advantage in picrocarmine stained specimens than in those treated with logwood. On the other hand, though quite exceptionally, some fibres, or portions of a fibre, had a markedly ground glass appearance with obliteration of all striation. Accentuation of longitudinal striation and faintness, or absence even, of transverse striation seemed the prevailing characteristic. The muscle corpuscles with but few exceptions stained readily everywhere and many of them were very large and prominent. Certain microscopical fields showed an abundance of vessels; occasionally a small vein was found between the muscular bundles surrounded by a crowd of white corpuscles. Slight, or an easily recognized, increase of nucleation of the intermuscular areolar tissue, with readily detected diapedesis of white corpuscles from the neighboring capillaries, was noticed throughout, together with proliferated areolar tissue cells, but here again areas were found where this had not occurred and the nuclei were quite within normal limits. Specimens stained with osmic



Myocarditis.

acid were unaffected. The pericardium and the endocardium were free from abnormality.

Louisa J——, aet. 8 years, came under my care at the Evelina Hospital on August the 25th, with the following history.

She was in perfect health until two months previously, since when she had complained of aching pains in the limbs. When she had been ill about a fortnight choreic movements of the left side were observed and these increased in severity. She also developed a cough, and began to waste. A week before I saw her her left arm and foot began to swell, and she complained of pains in the limbs. A history of rheumatism in the family could not be obtained, but one of her sisters had died of consumption.

On coming under my care her condition was as follows:

There was oedema, and redness over the back of the left hand and wrist, and over the dorsum of the left foot and corresponding ankle. These parts were excessively tender when touched. A slight effusion was found in the left knee joint. So painful were her joints that, her mother said, she was unable to sleep. Her pulse was 120 to the minute, the respirations 44 to the minute, and the temperature 100.4° F. There were no choreic movements. Examination of the heart revealed a loud, harsh, systolic apical bruit which was audible at the angle of the scapula. The second sound at the left base was accentuated. A few rhonchi were detected in the lungs. Her skin was hot and dry. She was ordered 10 grains of salicylate of soda every two hours. On September the 1st her medicine was reduced to every four hours, as she was sick after it, but the pain had greatly abated. The urine was loaded with urates. The left shoulder joint was attacked after the commencement of the salicylate. The temperature had fallen to the normal by the 27th. On September the 8th, although quite free from articular pain and fever, yet there was great distress of breathing and considerable praecordial anxiety. The respirations had not increased in frequency, and the pulse showed the same number of beats and was regular. The cardiac impulse was much diffused. It was felt in the 6th interspace, half an inch outside the nipple line. A systolic thrill was felt in the 4th interspace. There was a galloping murmur, systolic and presystolic in point of time. The liver was greatly enlarged, and its lower edge reached as far as the umbilicus. The spleen was not enlarged. Her ankles were now oedematous. The urine was free from albumin. She was ordered a mixture containing digitalis and iron, and calomel and jalap powders were prescribed. By September the 11th she had been twice sick after the digitalis mixture. The pulse had now assumed a peculiar form: alternate periods of from 10 to 20 beats succeeded one another with great regularity; one set of beats was about 120, the other about 60 to the minute. Within each cycle the rate and rhythm were fairly constant. The respiratory movements did not undergo any corresponding change. She died quite suddenly on the morning of the 12th.

Autopsy.—On opening the thorax the great veins were found much distended, and the heart, whose apex was in the sixth interspace outside the nipple line, much enlarged. A few drachms of serum escaped from the pericardial sac. The right auricle and ventricle were distended to their utmost by soft currant-jelly clot, which extended into the pulmonary artery. The cavity of the left ventricle was similarly distended, and a smaller quantity of similar coagulum was found in the left auricle. The pulmonary and aortic sigmoid valves were healthy. Both auriculo-ventricular orifices were much dilated and admitted four fingers with ease. There was not a trace of endocarditis either on the valves or lining membrane of the heart. The muscular substance of the ventricular walls was rather pale but not friable. Here and there yellowish dots and striae were seen. The tips of the musculi papillares, especially those in relation with the mitral valve, were much spotted with yellowish deposits about the size of a pin's head. Under the microscope a portion of the ventricular wall, taken at random, appeared quite healthy. On examining a dotted fragment it was seen that the muscular fibres, in certain small areas, had entirely disappeared, their place being occupied by countless oil globules of various sizes. Where it existed the change was extreme in degree, though markedly circumscribed. Both lungs were extremely oedematous, but nowhere consolidated or even engorged. Some not very recent adhesions were found over the right upper lobe. Many old, dry cheesy deposits were found in the bronchial glands. The liver was greatly enlarged, of a deep purple color externally, with a thick rounded edge which reached to the level of the umbilicus. The hepatic veins were loaded with blood. On removal of the blood by pressure, the cut surface of the organ showed a finely reticulated pattern with meshes of a grayish semi-translucent hue, the contained islets being yellow. A microscopic section of the fresh organ was masked by innumerable oil globules. Where the hepatic cells could be seen, they appeared healthy. The spleen was dark, not soft or much swollen. The kidneys were healthy, but the pyramids were intensely congested. The other organs did not present any abnormality.

GONORRHŒAL RHEUMATISM IN THE NEWLY BORN.

By Hugh A. Cuthbertson, M. D.,
Chicago, Ill.

THIS case occurred in the practice of Dr. William Cuthbertson : The child was born on August 17, 1895, and two days afterwards developed a severe purulent ophthalmia. The mother had a leucorrhœa for three months before the child was born, and the father had a gonorrhœa, which was apparently well at the time of the child's birth.

The eyelids were greatly swollen and distended with pus. They were washed hourly with a saturated solution in water of boracic acid ; then an application of a 2 per cent. solution of nitrate of silver was made ; and finally they were washed with a normal salt solution. In five days the eyes were perfectly clear and the lids were nearly normal.

Four days after birth the nurse noticed that the child screamed when its arms or legs were moved. Finally the wrists, elbows and knees became swollen and red, and it was evidently suffering from an acute gonorrhœal rheumatism.

It died on the seventh day from a septic entero-colitis.

A Case of Fulminant Purpura.—Pucci (*Gazz. degli ospedali e delle clin.—Centralblatt fur innere Medicin, 1896, xvii, No. 21*) reports this case : A boy, 7 years of age, contracted measles, which were complicated by a suppurative parotiditis dextra, which was evacuated on the 13th day, discharging healthy pus, and reducing the fever. Two days later there followed an attack of epistaxis, rise of temperature, hemorrhages from mouth, rectum and bladder. On the following day his whole body was covered with purpuric spots, confluent in part, accompanied by pains in the limbs, apathetic condition, with a temperature of 39° C., pulse 120, extreme anaemia and enlarged spleen. In spite of medication with liquor ferri, ergot and gallic acid, he died forty-eight hours after the appearance of the ecchymotic spots. P. notes that this case is somewhat different from Henoch's purpura fulminans ; in the latter cases there was an absence of hemorrhages into the mucous membranes, while Jackson had repeatedly noticed them in purpura fulminans. Sections and bacteriological examination are missing for the completeness of history.

PRACTICAL NOTES.

Bathing.—The newly-born babe must not remain uncovered for any length of time. The nurses who spend—with more pedantry, emphasis and self-consciousness than intelligence—much unnecessary time in oiling and soaping and washing and bathing, turning this and that way, drying the surface, wrapping the navel, applying the bandage, and dressing the newly-born in fineries, in which it finally arrives, shivering with a cold nose and blue feet, are not infrequently the causes of ill-health or death. In a case recently seen, the pneumonia of the newly-born was undoubtedly due to the fact that the baby was neglected while both physician and nurse were engaged about the fainting mother. Craig must have seen many such cases, for with him, "no baby is ever washed, dressed, fed, tied up; the cord is not wrapped up, but the infant is anointed with fat and wrapped in flannel the first twenty-four or thirty-six hours."—A. JACOBI.

Prescribing for Children.—From prescribing drugs which they seldom see practitioners are apt to overlook the nauseousness or the unsuitable bulk and consistence of the materials they employ. The point is of importance chiefly in the case of children, who in this way are made to endure much needless torture. Certain tastes which are very unpalatable to children may be easily disguised, as scammony and castor oil with milk, senna with chloric ether, and the decoction of aloes with liquorice. Of certain drugs the saccharine preparation should be selected; to others sugar, or the infusion of roses or cloves, may be added. Bulky powders should be avoided, and the dose of fluids should not exceed 1 or 2 drachms. There is a legitimate distinction to be drawn between the medication of children and the medication of adults. To the child the process can hardly fail to be grievous; it never affects his imagination except unfavorably. We properly withhold it as far as possible. With the adult the taking of medicine always excites a pleasing hope, and no one can doubt that, in some instances, the mere belief in it is of itself salutary.—DR. OCTAVIUS STURGES, "Clinical Medicine."—*Practitioner, 1896, lv, 676.*

Seborrhœa.—In seborrhœa, particularly of the scalp, resorcin is one of our most useful remedies; being odorless and practically colorless, it makes an agreeable application to the scalp—much more so than sulphur, which is so frequently prescribed. In the treatment of seborrhœa capitis, the following oil will be found to be an agreeable and efficient application:

℞ Resorcin, gr. xx;
Alcohol, f ʒ ij;
Petrolat, f ℥ vj.
M.

A small quantity of this should be thoroughly rubbed into the scalp with the fingers or a small sponge every night at first, later every second night. It should not be prescribed, however, for those with very light hair, since it causes a slight but noticeable discoloration. —HARTZELL.

Danger from Direct Insufflation of the Lungs in Asphyxia of the Newly Born.—H. REICH has the case of a consumptive midwife who was reported to have infected twelve infants with acute tuberculosis in thirteen months. In the practice of another midwife, who was healthy, in the same town, no such case occurred. During nine previous years there were but two cases of tubercular meningitis, and but one in the year following the death of the consumptive woman.—A. JACOBI.

Emulsion of Bromoform.—

Bromoform	48 drops
Expressed oil of almond	20 gm.
Powdered tragacanth	2 gm.
Powdered acacia	4 gm.
Cherry laurel water	4 gm.
Distilled water	120 ccm.

Add the bromoform to the oil of almond and emulsify with the gums after the usual method. This affords a good method of administering bromoform in a palatable form.—*Am. Druggist, 1896, xxviii, 326.*

For Ringworm.—An ointment of resorcin containing thirty to forty grains to the ounce is serviceable in the treatment of the various forms of trichophytosis. Although it is not superior to other remedies of this class, it has the advantage of being a cleanly application, far more so than sulphur and tar which are so commonly employed as parasiticides. In tinea versicolor an alcoholic solution, twenty to thirty grains to the ounce, may be painted over the affected area with a large camel-hair brush nightly, until free desquamation takes place. If the disease is not completely cured when desquamation is completed, the application may be repeated a second or third time.—*Hartzell, Therap. Gaz., 1896, xx, 363.*

Haematoma of the Sterno-Mastoid Muscle.—When observed at an early period the local application of ice may reduce the bleeding. For a week, after ceasing the employment of ice, small pieces of cloth moistened with cold water will check the secondary inflammation to a certain extent. During all this time the head must be kept quiet—best perhaps by carrying the baby on a hair pillow large enough to support the whole body, head included. When the tumor has time enough to become hard, it may last for years; when it is large, it may give rise to a slight torticollis. Then gentle stretching and massage, the application of a mild galvanic current, and the inunction of an absorbable ointment of iodide of potassium may be tried to advantage.

℞ Potas. iodidi,
Aquae, āā, 1.
Adipis, 2.
Lanolin, 6 to 8.

Mix. Sig.—Use externally.—A. Jacobi.

* * *

Book Review.

A TREATISE ON THE MEDICAL AND SURGICAL DISEASES OF INFANCY AND CHILDHOOD.

By J. Lewis Smith, M. D.,

Professor of Diseases of Children in Bellevue Hospital Medical College ; Visiting Physician to the Foundling Hospital and to the Infant Asylum, etc.

Eighth edition. Thoroughly revised and greatly enlarged. With 273 illustrations and 4 plates. Lea Bros. & Co.: New York and Philadelphia.

THE eighth edition of this well-known treatise has received such complete revision at the hands of the author that the volume may be said to encompass all the recent advances made to our knowledge of the etiology, pathology and therapy of the diseases of children. No one can read the book without the conviction that it is the labor of one of the first pediatrists of the nineteenth century.

In many respects the book differs from its predecessors of previous editions. The addition of so much new material has increased the size to a thousand pages ; the section on intubation is from the pen of Joseph O'Dwyer ; the chapters on diseases of the skin have been produced by the aid of Dr. A. R. Robinson, and the chapter on diseases of the blood by the late Dr. Frederic M. Warner, son-in-law to the author, to whose memory the work is dedicated. In considering the surgical diseases of children, the author has had the aid of Prof. Stephen Smith. Mere mention of these names will show that the parts of the work to which they have given their aid are thorough, comprehensive and altogether reliable as a reflection of the most scientific opinion of the day.

The chapters of the book which show least change are those devoted to the general hygienic supervision of the mother and the child. They have long been considered models in point of style and substance. The chapter on artificial feeding is brief, practical and scientific, one which the student can read and rise from with clear ideas not only as to the preparation of artificial foods and their relative nutritive value, but as to their administration as well. The section devoted to weight, growth, temperature, pulse and respiration of the child, contains tables not only of value to the practicing physician, but they are of real scientific interest Perhaps the only disappointing feature of the book is the lack of definite expression of opinion concerning the value of antitoxin in the treatment of diphtheria. The author's opinion on this subject, if given unreservedly, would have large influence with the profession, especially with those who are acquainted with his faith in therapeutic measures after his experience has once proved their usefulness. He advances cautiously the favorable results as shown by statistics based on this method of treatment, but robs them almost entirely of expression of his own individual experience.

The chapters on the common eruptive diseases of childhood are surprisingly inclusive of the more recent contributions that have been made to these subjects, and here, as well as throughout the book, are seen the evidences of the author's wide reading, catholic taste and critical faculty.

The chapters on nervous diseases have likewise been most extensively remodeled, and now when this portion of pediatrics has special treatises of its own, it is gratifying to see a general textbook on pediatrics equally up to date with them in almost every particular.

A new chapter is one devoted to the subject of myxoedema, to which we regret the author has given the general name of cretenism, followed by myxoedema in parenthesis. Cretenism has a wider application by far than myxoedema and we see no reason why the term should be used as descriptive of one form.

The chapter on myxoedema might have been followed profitably by one on idiocy, its forms and classifications, a subject which has been very much neglected in this country.

This, with the absence of any consideration of speech defects, particularly a comprehensive consideration of aphasia, are the only shortcomings which we believe exist in this splendid work. It can be recommended to students with the same confidence that it will be for them the most reliable guide from which to gain a knowledge of the diseases of children, and to practitioners with the same assurance that they will find in it a mine of experience that it has been heretofore. It must be pleasing to an author to have such tangible expression of appreciation by the profession of one's work as an eighth edition. It is no less pleasurable for the reviewer to be able to say that such eighth edition is the peer of those that have gone before and deserving of continued favor.

Abstracts.

ANGINA SCARLATINOSA.

L HAIN (*Przeglad lekarski, 1895, No. 38-Centralb. f. innere Medicin, Vol. 17, No. 21*) divides scarlatinal sore throat into two varieties: Angina catarrhalis and angina necrotica, falsely termed diphtheria scarlatinosa. The latter is distinguished from true diphtheria (1) by its predilection for the tonsils, the bands of the uvula and the palatal arches. The larynx and trachea show no changes. (2) The necrotic form of angina is never followed by paralysis; and lastly (3), Lœffler bacilli are never found in this necrotic form.

To prove bacteriologically these differences, the author very carefully subjected twenty cases of angina scarlatinosa to bacteriological investigation, and the following results were obtained:

(1.) In cases of scarlet fever with angina catarrhalis usually the staphylococci are found, seldom streptococci.

(2.) In cases of scarlet fever with angina necrotica, besides the staphylococci, there were found very numerous streptococci. We must therefore discriminate between two kinds of infection (a), those with a preponderance of one variety of bacteria, usually a staphylococci infection, while other forms of bacteria are not at all found, or their number is so small as to be ignored. (b) A mixed infection where, besides staphylococci, there are also found quite numerously streptococci. The necrotic form of the scarlatinal angina, being a mixed infection, is also the more severe form, and both its course and death-rate (25 per cent.) justify this view.

For the lethal consequences the author mainly holds the streptococci responsible, as experience teaches us in diphtheria. Roux and Martin injected antitoxins into animals which had first been treated with both Lœffler and streptococci cultures. The course of diphtheria was a very severe one in these cases, and in spite of the antitoxin injections the animals died.

Although, as yet, a specific scarlet fever bacillus is unknown, still there may be drawn a positive conclusion as to the course of a certain case of scarlet fever by making a bacteriological culture of the accompanying angina, the earliest symptom of the disease.

ANTITOXIN BY ELECTROLYSIS.

BOLTON and PEASE, before the Association of American Physicians, gave (*Med. News, 1896, lxviii, 541*) the results of their trials, which were quite uniform—and a summary only was given. A weak current (44-72 milliamperes) was passed for twenty hours through a solution of diphtheria toxin, with such effect that ten times the minimum fatal dose of this solution could be injected into guinea-pigs without serious effect. The curious fact was discovered that the antitoxin was formed only at the positive pole, although the toxin was destroyed at the negative. A thoroughly efficient and active antitoxin can thus be produced, although the reader stated in reply to questions from Drs. Sternberg and Smith, that it was doubtful whether it could be used for practical purposes, as the solution was too dilute, and hence the dose too bulky. D'Arsonval had just reported an antitoxin produced by high currents which was said to be much more powerful. There was a curious difference between the two currents, the constant simply destroying the toxin by electrolysis, while the intermittent, in the same solution, would produce an abundance of antitoxin.

TREATMENT OF WHOOPING COUGH BY BALLOONING THE RECTUM WITH CARBONIC ACID GAS.

A. Rose (*N. Y. Med. Monatschrift, 1896, ix, 2*) says that Bergeon has used carbonic acid gas since 1887 in the treatment of whooping cough, using his own apparatus for ballooning the rectum with the gas. The operation should immediately follow an attack of the paroxysm, provided three hours have passed since the last meal was taken ; the child may, however, take nourishment soon after the gaseous enema, as the carbonic acid gas has no action whatever on the digestive process. At least four hours should intervene between each treatment. Bergeon claims that even the most distressing cases are cured within one week. Not much notice has been taken of this method of cure, probably for the reason that Bergeon's carbonic acid enemas for the cure of consumption did not fulfil our expectations.

Dr. Rose has treated about fifty cases by this method, and in the majority of cases the report to him has been a marked amelioration at once of the numbers and characters of the attacks, so that within eight to fourteen days the children were totally free from whooping cough. He reports a number of cases, in which the results of treatment are very gratifying.

As to the manner in which the remedy acts, his explanation is the following : Carbonic acid gas diffuses itself by way of the venous system into the lungs and is expired. Physiological observations have demonstrated that during inspiration and expiration the upper and larger air passages are being ventilated, while the exchange of carbonic acid gas and oxygen is being consummated by diffusion in the alveoli of the lung, and here the phases of breathing are nearly quiescent. We find a continual tendency of the carbonic acid gas upwards, and of the oxygen in the opposite direction. A necessary sequence is that the air in the respiratory organs, passing from the mouth to the lung alveoli, contains less and less oxygen and more and more carbonic acid gas. The probability is that in whooping cough the carbonic acid gas given by the rectum partially or totally produces a cure by its anaesthetic property. The apparatus used by Dr. R. consists of a flask, of the capacity of about one pint, with wide mouth, closed by a perforated rubber cork. Through this perforation is passed a glass tube, whose outer end is connected with a rubber tube, on which is fastened a rectal tip. The flask is filled to about one-third of its capacity with water; the free end of the glass tube reaching within one or two inches of the surface. About six drachms of bicarbonate of soda having been previously dissolved in the water, and now one-half ounce of large crystals of tartaric acid is added to it. Quickly close the bottle and pass the rectal tip into place. When meteorism becomes marked and a tension of the abdominal walls is noticed, the tip is removed. The enema may be repeated as long as gas is evolved in the flask.

FOETAL SYPHILIS.

H. ALBERS (*Munch. medic. Wochenschrift, Vol. 43, No. 19*) says that there is still a difference of opinion whether an habitual abortion or foetal death occurring during the latter half of pregnancy (if we except mechanical injuries) has for its basis any other cause than syphilis. This difference is explained by the great difficulty of excluding the disease in *both* parents. Not infrequently one is surprised to find the first child of seemingly perfectly healthy parents prematurely born in a *macerated* condition before term. Is one justified at once to diagnose syphilis as the cause, and energetically to subject the parents to anti-syphilitic treatment, or shall we trust to the truthfulness of their recollection and await the results of a second pregnancy, thereby proving or disproving the habitual element of the abortion?

The situation becomes even more difficult if the physician is asked whether a woman who has carried a macerated syphilitic foetus should be considered as infected and accordingly treated.

Let us consider first the diagnosis. The wrongly termed "decomposed," more correctly called "macerated" or sanguinolent foetuses, which are so extraordinarily similar and show a marked characteristic type, are divided by Ruger into two large groups, which he calls the sanguinolent syphilitic and the sanguinolent non-syphilitic. Ruger found that by weighing the liver and spleen of sanguinolent non-syphilitic children and comparing their weight with the weight of these organs in sanguinolent-syphilitic children, in the latter the weight of the spleen was much greater and that of the liver nearly twice as great. He concludes that when the proportionate weight of the spleen, compared with that of a healthy child, is 1:170, we must admit a syphilitic infection. Birch-Hirshfeld arrived at the same conclusion. After giving tables of experiments of his own the author continues, of the same importance is the question, what effect the macerated foetus has on the mother? It is not sufficient to look for florid luetic symptoms, but a very thorough examination for latent stigmata or old syphilitic marks is necessary. PALMER (*Deutche medic. Wochenschrift, 1895, No. 5*) mentions, amongst others, one very important symptom. This consists in pigmentless macules found on the great and small labia, around the anus, in the genito crural folds and occasionally on the mons veneris. Occasionally they are slightly raised, sometimes they lie slightly below the level of the skin. These spots mark the site of former papules or condylomata, possibly even the primary sores. These macules are exceedingly persistent, and are of great value in making a retrospective diagnosis after many years. It will be necessary in most cases to shave off the hairs in the region of the mons veneris, as these may totally conceal them from view. The differential diagnosis between the vitiligo, however, must be sometimes made, the latter can easily be recognized by their much lighter color.

ON THE SUBCUTANEOUS INJECTION OF CORROSIVE SUBLIMATE IN THE TREATMENT OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

CONSALVI (*La Semaine Médical, 1896, No. iv, 16-14*) had occasion to observe nine cases of epidemic cerebro-spinal meningitis and treat them with hypodermics of corrosive sublimate solution, following the example of Dazios in these affections. The injections were made in the buttock, and the dose was from 0.005 to 0.01 according to age. The patients were between 14 months and 19 years of age.

At first the injections were made daily, later, as improvement was noticed, every second day. Only one death occurred in these nine cases, namely, a girl 7 years of age, who had at first improved after the injections. In the other cases the first symptom denoting improvement was the cessation of vomiting. Later on the excitement, cephalalgia, herpes labialis and stiffness of the muscles of the neck gradually disappeared. The latter symptom, only after the 7th or 8th injection. Consalvi ceased to make further injections in the first two patients treated by him when these results were obtained, but full convalescence did not take place in these cases until after forty days, during which time a slight intermitting fever with some headache was still present. Consequently he continued giving the others 3 to 4 injections every two days, even after the disappearance of the neck stiffness, and a much earlier recovery was noted. The corros. sublimate was very well borne, only two girls aged resp. 7 and 14 years, contracted a slight mercurial stomatitis after the 10th injection, and one a slightly bloody diarrhoea after the fifth injection. These phenomena, however, passed off very soon. Besides the sublimate injections, Consalvi also employed leeches and ice, frequent purgatives (calomel) and as a sedative potass. bromide. In adults he used morphine injections.

After stopping the injections he ordered potass. iodid. for hastening resorbtion of the exudate, and for the elimination of the mercury.

ERYTHEMATOUS INFLAMMATION OF THE BORDER OF THE TONGUE IN INFANTS AT THE BREAST.

Wertheimber (*Archiv. f. Kinderheilk, 1896, xx, 344*) says that the disease begins at the tip of the tongue, which becomes deeply red, and whose papillae become very prominent ; single spots of a duller hue, denuded of epithelium, then appear.

In a short time the inflammation spreads along both sides of the tip of the tongue, they become markedly swollen and rise above the plane of the surrounding tissue, at the same time being sharply divided from the normal parts by their marked redness. The process confines itself very constantly to the tip and its neighboring borders (mainly appearing on the under surface) to about the anterior third of the tongue, by which the whole process differentiates itself notably from stomatitis catarrhalis and the initial erythema of sprue. Neither is there a formation of vesicles in these cases, nor an exudative or mycotic deposit on the diseased part.

The retrogression of the disease begins at the tip of the tongue, so that toward the end of the inflammatory process there remain, mainly on both anterior borders of the tongue, isolated, prominent reddish patches, which also gradually fade away.

The duration of this process seldom exceeds 8-10 days, under proper treatment. The cases observed by the author up to the present time were exclusively found in artificially nourished, somewhat weakly infants, but otherwise in good health, of the ages of 7 weeks to 4 months. Dyspeptic symptoms were not present in any of the cases. As nursing is painful to these little patients, many of them had lost quite considerably in weight, owing to their not receiving sufficient nourishment. The cause of the disease is to be referred to mechanical irritation from the act of suckling, which produces erosions of the tender epithelium of the tongue. The treatment is the ordering of a soft, elastic and scrupulously clean nipple, having a large perforation. Nothing else besides this is necessary, but the frequent flushing of the parts affected with a solution of borax (4 or 5 per cent.).

OXYURIS VERMICULARIS IN CHILDREN AND ITS TREATMENT WITH NAPHTHALIN.

AUR. SCHMITZ (*Jahrbuch f. Kinderheilk, xxxix, 2 and 3*) enumerates the various inconveniences which may be produced by oxyures vermiculares—the irritations produced in the rectum and anus are mentioned, and stress is laid on the fact that these worms may produce prolapsus recti in children, that even rectal fistula may follow the irritation caused by these oxyures to the mucous membrane. It is also pointed out that they may give the first incentive to the habit of self-abuse. Occasionally they are the cause of convulsions, epileptic or eclamptic seizures. As regards the treatment, he revived the experiments of Ungar with naphthalin. The results were as follows: In 46 cases the cure seemed to be accomplished twenty-six times. In the remaining 20 cases a cessation of the symptoms complained of was obtained, but no permanent result secured. The naphthalin was well borne, and only in one case a quickly-passing strangury was produced. The medicine was given as follows: After the use of a thorough purge, naphthalin in powder was administered four times daily until eight doses had been given, then a pause of eight days was made, and the same doses repeated. The size of the dose varied from 0.15 grm. to a child of 1½ year old to 0.4 grm. to a boy 12 years of age.

HABITUAL CONSTIPATION IN INFANTS.

Durante (*Archiv. f. Kinderheilk, 1896, xx, 3 and 4, 254*). There are many causes which acting together produce defective action of the bowels in infants. The sigmoid flexure is proportionately of much greater length than in the adult, the nervous forces also are not yet as well regulated, so the child does not feel the need of an evacuation. The infant lies most of the time in a horizontal position, very frequently it is drugged, on account of restlessness, with all kinds of medicines, and frequently opiates are used, which add to the trouble. Furthermore the constipation may be due to other diseases—rhachitis, etc. The most important cause, however, is the feeding of the infant with food deficient in fat. The feces of the baby consists of fat and casein ; it is therefore of importance that the food should contain an excess of fat, so that the necessary quantity of fat can be here produced, and through this the feces obtain their plastic condition. From a deficiency in fatty matter, the contents of the lower bowel will become dry and hard, and hence difficult of expulsion. The milk of woman contains about 4 per cent. of fat, cow's milk only about 3.5 per cent. If the latter is mixed with an equal quantity of water, the percentage of fat falls to 1.75 per cent., and according to further dilution still lower. Other preparations in place of mother's milk, the different children's foods, add the difficult digestion of starch on to the absence of fatty matter, and therefore they are even worse as articles of diet than cow's milk, and readily give rise to diarrhoeas following their constipating effects.

RESEARCHES ON THE AETIOLOGY AND PATHOGENESIS OF THE ACUTE NON-DIPHTHERITIC FORMS OF ANGINA.

A. Veillor (*Archiv. f. Kinderheilk, 1896, xx,* 3 *and 4, 248*). As belonging to the acute non-diphtheritic anginas, the author enumerates the catarrhal, pseudo-membranous, and phlegmonous forms. Among twenty-two cases of these anginas, author has found 10 to be of the catarrhal form, 7 of the pseudo-membranous, and 5 of the phlegmonous. The writer gives the history of the anginas in their generality, and then enters minutely into the technic of their diagnosis, showing how the microscopical and bacteriological examinations should be made. The latter consists in making cultures in different media, like gelatin, agar, serum, bouillon, potatoes, and inoculating the exudate into mice, rabbits and guinea pigs. The following are the conclusions arrived at from the study of these 22 cases:

1. There are found pathogenic microbes in the throats of patients suffering from non-diphtheritic sore throats.

2. These pathogenic microbes consist of:
   (*a*) the virulent streptococcus pyogenes,
   (*b*) the more or less virulent pneumococcus,
   (*c*) the staphylococcus pyogenes.

3. The streptococcus pyogenes was found in each one of the twenty-two cases of angina.

4. The streptococcus pyogenes was in most cases found associated with the pneumococcus, and in a few cases with staphylococci. In five cases the streptococcus alone was present; the latter, therefore, seems to play the most important role in these anginas.

5. The bacteriological results were the same, although the cultures were made with reference to clinically different anginas.

6. These anginas, which are diverse in their appearances, seem to be of the same nature. Every one of them is produced by the streptococcus pyogenes alone, or associated with the pneumococcus and staphylococcus. The clinical and anatomical differences are due in part to the location of the pathogenic microbes, which spread themselves on or in the mucous membrane, or in the submucous cellular tissue; in part they depend on the virulence of the micro-organisms and the susceptibility of the patient. The very same micro-organism may produce a superficial, simply catarrhal inflammation, or a fibrinous exudate, or a phlegmonous process. It may also become generalized and cause arthritic inflammations, skin eruptions or produce death by septicaemia.

7. The streptococcus of these anginas is identical with the streptococcus pyogenes or that of erysipelas.

8. The streptococcus of these anginas is to be differentiated from the streptococcus of the saliva, which is present in every normal pharynx and is not pathogenetic.

9. The streptococcus of the saliva, which can easily be obtained from the culture of the exudate in the pharynx of the patient, has been the cause of innumerable mistakes, which have obscured the question of the streptococci of the anginas.

10. There may possibly exist some forms of angina which are due exclusively to the pneumococcus or to other microbes, but they must needs be very rare, as not one case was observed in these twenty-two.

ELECTRO-THERAPY IN PERITONEAL EFFUSION OF CHILDREN.

Duranto Durante (*Archiv. fur Kinderh., 1896, xx, 3 and 4, 257*). Following the success of De Renzi in causing absorption of pleuritic and pericardial effusions by means of the electric current, Walker made of use this method in peritoneal effusions. He used pretty strong currents of 50-70 ma. To make these bearable he placed one cotton pad saturated with a 10 per cent. solution of bicarbonate of soda under the positive pole, and one saturated with a 5 per cent. solution of tartaric acid under the negative. The positive electrode was placed on the abdomen, the negative at times on the nape of the neck or on the back. With this treatment Walker was enabled to cause absorption of ascites which had resisted cure by all other means, including frequent punctures. Encouraged by this successful issue Durante determined to apply the method in similar cases. The result was not particularly encouraging; only very strong currents produced a diminution of the abdominal fluid. It is to be regretted that M. Durante does not mention the exact intensity of the current used, only stating that he used one of 10-14 elements. The intensity of the current used by De Renzi of 50-70 ma. is extraordinarily strong; it is very dubious whether this could be used without harm to the child. The researches of M. Durante include four cases of chronic effusion into the peritoneal cavity. The first case was a girl, five years of age, in whom after thirty daily treatments by the electric current a nearly total disappearance of the effusion was accomplished. However, the general condition of the girl had gradually become lowered, and death took place a short time after treatment. In case two, tumor of the liver in a boy 5½ years old, the same result was obtained with thirty treatments in so many days. In the third case, also a tumor of the liver in a boy 7 years of age, only weak currents were borne; no marked improvement was noted. In case four, boy 4½ years old, a number of tumors were present beside the effusion; the current was also badly borne and no result obtained. Though Durante advocates the use of electricity in these cases, he warns the operator not to lose too much time in its application, that the time for surgical interference may not be passed by.

ON CYSTITIS IN CHILDREN, CAUSED BY THE BACTERIUM COLI COMMUNE.

Eschrich (*Archiv. fur Kinderheilk, 1896, xx, 3 and 4, 277*). While the cases of cystitis caused by the bacterium coli observed thus far were exclusively found in adults, and particularly in males, it has also occurred in Eschrich's practice in ten cases of children, and exclusively in girls. The urine has a markedly acid reaction and contains no albumin, or only a trace. On allowing it to stand, a copious sediment consisting mainly of pus cells is deposited. Even in the unstained preparation rod-shaped bacilli with rounded extremities are discovered in each drop of the urine, some of these being single and others in pairs. Most of these are free, but toward the end of the disease they are also found inclosed in the pus cells. Further investigation as well as culture demonstrates them to be undoubtedly members of the group of coli bacilli.

Besides the slight local distress, the health of older children was not much deranged ; in one case there was a remitting fever which at one time rose to 40° C. ; an infant of six months presented fever, restlessness, paleness and marked disturbance of the general health. These symptoms disappeared under proper treatment ; in one case they ceased spontaneously after a duration of eight weeks. The treatment was irrigation of the bladder, with a very mild but slightly milky solution of creolin. Salol, in doses of 0.5 grm. a day, was administered two to four times.

The author considers the irrigation, however, as the most effective and least harmful treatment. He believes that the bacteria gain entrance to the bladder from the vagina, by way of the short and relatively wide female urethra.

PUNCTURE FOR HYDROCEPHALUS.

Fr. Schilling (*Münch med. Wochenschr, 1896, xliii, 8—Centralblatt fur d. g. Therapie, 1896, xiv, 114*) reports four cases of hydrocephalus on which he operated :

1. A girl, 1½ years of age, was taken with convulsions, a month after an attack of influenza. The skull increased in circumference (57 cm.) the fontanelle was tense, slight convergent strabismus, vomiting, but no spastic symptoms made their appearance. Puncture and aspiration of the left lateral ventricle was performed and 300 cm. of fluid was removed. This operation was followed by severe convulsions and great collapse. In eight days the operation was repeated, and 270 cm. of fluid was evacuated. Dimension of head now 45 cm. Recovery took place under internal medication with phosphorus. Since the operation three years have passed. Circumference of skull at the age of 3¾ years is 52 cm.

2. A boy, with congenital hydrocephalus, was aspirated during the sixth and eighth week, and each time 1,200 cm. of fluid was removed. Death occurred in the thirteenth week of his life. Circumference of skull, 75 cm.

3. A boy, bottle-fed, age 7 weeks, convulsions ; circumference of skull, 37.5 cm. On account of stupor puncture was made. The left ventricle was found dry, the right yielded 2.3 cm. of bloody serum. Marked improvement followed the puncture. Two months later the child developed strabismus and vertical nystagmus (albinismus). In this case there is the suspicion of a slowly-developing meningitis, following a septic infection (ritual circumcision).

4. A girl, 33 weeks old, originally suffering with fever and bronchitis, developed convulsions, left hemiplegia, coma and strabismus convergens. Diagnosis of tubercular meningitis was made. Lumbar puncture with aspiration, followed by puncture of the lateral ventricles, was ventured. A gradual removal of 65 cm. of fluid followed. No bacilli could be demonstrated. Improvement, cessation of convulsions, retrocession of the hemiplegia followed. Died four days after operation. Autopsy revealed tubercular meningitis and severe tubercular affection of the lungs. He recommends puncture of the lateral ventricles, as being easy of execution, following it by enveloping the head with a broad rubber bandage, and giving internally cod liver oil and phosphorus.

ESTIMATE OF THE RESULTS OF ARTIFICIAL FEEDING OF INFANTS WITH BOWEL COMPLAINTS DURING THE FIRST YEAR OF LIFE.

Ad. Czerny (*Jahrbuch für Kinderkrankheiten, xli, 3 and 4, 343*) finds it remarkable that in spite of the numerous methods for artificially feeding the infant deprived of breast milk, the results are either totally wanting, or they are recorded in such a manner that it is impossible to judge of their real value. Although sterilization of cow's milk has been in use for a number of years, it is impossible, from the literature on the subject, to know whether or not diarrhœal diseases and mortality have been decreased thereby.

It is necessary, in considering the value of artificial feeding, to take into consideration, (1.) The previous history and present condition of the child. (2.) Quality and quantity of the food, with the manner of feeding. (3.) Increase or decrease of bodily weight during the use of a certain food. (4.) The functions of the bowels. (5.) Functions of all the other organs of the body. (6.) The conditions under which the observations were made.

In considering the previous history, it is necessary to note whether the infant was prematurely born or carried to full term. The age of the child must be known. Where the children are sick, it is absolutely necessary to know how they have been fed up to the date of their illness and what diseases they have passed through. It is of much consequence to know whether these diseases have been acute, or whether they have suffered for some time with diarrhœal diseases. As long as the question of the sterilization of infants' foods has not been decided, it seems also necessary to take into consideration whether sterilization was done and with what result. A great variety of opinions are still met with as to the quantity of food to be given an infant in one meal, and the intervals in which it should be given. Some allow the baby to be fed whenever it will take it, others claim that it should only be fed every half hour, and still others allow feeding every two or three hours, etc. Now, it is self-evident that all these facts should be carefully recorded. Concerning the quantity given, note should be made as to how much the baby had taken at each nursing; any medicine which may affect the chemical or physiological properties of the food, if given for any ailment, must be carefully accounted for. The knowledge of bodily weight, as to its increase and decrease, is an absolute necessity in judging of the value of any artificial food. The first weighing will inform us in what phase of nutrition the baby was when first coming under observation; then the weight should be taken either daily, or, at any rate, during very short intervals, and this must be continued for a certain length of time to make it of any value. Increase in weight demonstrates that the method of feeding in this particular case is the right one, but it does not follow that loss of weight is always due to unsuitable food; it may be the result of some ailment. From observations of the intestinal functions we may deduce a number of indications for the manner of giving and the kind of nourishment we should give, and therefore these must never be neglected in the record. It is not sufficient simply to note the consistency of the feces. I would particularly draw attention to the fact, says C., that the functions of the stomach and bowels should not only be registered where loss of weight or non-increase of weight is noticed, but also in those cases where increase of weight obtains. The necessity for this is obvious where, after increase of weight for a greater or less period, a disturbance of the functions of the intestinal tract suddenly occurs. The course of the disease in the latter cases is a much different one in children who had at first gained in weight, but had shown pathological symptoms, as continued vomiting or habitual constipation, little sleep, etc. The importance of a proper as well as an improper diet is only revealed when the condition of the rest of the body is observed along with that of the intestinal tract. When babies with some foods take on bodily weight and get fat, but remain markedly anæmic, you may be sure that the food is not a perfect one. The question whether rhachitis is exclusively due to improper feeding would long ago have been decided if closer observations had been recorded about this subject. In the same manner only can it be ascertained whether the appearance of toxic and infectious symptoms are due to improper feeding, if not only the weight and the functions of the stomach and bowel are taken into consideration in all experiments on the feeding of infants, but the whole anatomy of the child.

Keeping the above points in view, Dr. C. made experiments on a number of children in his clinics. Every child which was brought with symptoms of acute gastro-enteric symptoms was deprived of nourishment for 24-48 hours, to thoroughly free the intestinal tract from every particle of food. During this time, however, they are to receive plenty of water, in the form of teas; in very severe cases, subcutaneous injections were made with a normal salt solution. When the intestinal tract was perfectly empty, the patient was allowed some nourishment, but only at four-hour intervals, between times receiving only tea or water. The thorough emptying of the intestinal tract is the mightiest auxiliary we have in removing the symptoms of gastro-intestinal disturbances, or in checking their progress. The fear that a child might die of hunger from this treatment, where it is only given water, can be proven unfounded by the fact that the bodily weight does not decrease any more than when nourishment is given during acute affections of the gastro-intestinal tract. According to the latest researches, hydrochloric acid secreted by the stomach acts as an antiseptic. This can only be of sufficient importance when free hydrochloric acid can accumulate in the stomach. In the sick child there being a retardation of the secretion of the acid, it seems necessary to give it time to accumulate. Hence the resumption of nourishment is begun at intervals of four hours.

As nourishment for infants under one year of age, until the present time, cow's milk or goat's milk has been used.

In the first group of cases, the milk used was not skimmed, and it was diluted with two parts of water and a teaspoonful of sugar of milk added to each portion. Only in very weakly babies was the milk diluted three-fourths. In many cases it was sufficient to dilute it one-third or one-quarter only, to produce some gain in body weight. It is of importance, however, not to change the proportions without some reason, otherwise a relapse very easily follows.

In a much larger group of cases, no gain of body weight was observed under the above treatment. It may be that in these cases either not enough nourishment was absorbed on account of changes in the stomach and intestines, or else not enough nourishment was retained on account of the small quantity the child would take, or the greater part was again vomited. In these cases the indication is not to increase the amount of milk at once, but to wait. Should the cause be an inability of the mucous membrane of the stomach and bowels to digest the food, this can be discovered by an examination of the stools, which will be of a pasty character. Of all constituents of cow's milk the digestion of casein is disturbed in the most marked manner. Therefore the milk must be still further diluted, or else barley or rice water are substituted.

In contradistinction to those cases where bodily weight is influenced in a short time, there are some where this cannot be accomplished in weeks or months. There have been some cases noted repeatedly where there was no gain or loss for two to three months, when, of a sudden, after the gradual subsidence of the general toxic and infectious symptoms, a rapid and continuous increase in weight was observed.

In the fourth group, there is a continual vacillation both of the symptoms of disease and of the weight for weeks or months; these children suddenly succumb to an exacerbation of their bowel complaint. An explanation is furnished by the great damage done to the function of the stomach in such children. The secretion of free hydrochloric acid is so small that its antiseptic influence is not brought to bear, and slight contaminations of the food with bacteria, which are of no importance in a normal stomach secreting sufficient hydrochloric acid, result in an exacerbation of symptoms and increased intestinal catarrh, to which they succumb at some time.

In conclusion, a number of cases must be mentioned where not the slightest improvement is obtained, but any attempt to nourish with cow's milk rapidly increases the complaint. All of these died, with continuous loss of weight. There was always present a high degeneration of liver tissue. Knowing that the liver acts as a destroyer of some poison in the economy, the lethal ending of these cases is not surprising. He does not think that children belonging to this last group could be saved by any form of infant food.

TREATMENT OF SCARLET FEVER BY ANTI-STREPTOCOCCUS SERUM.

A. Marmorek (*Wiener Med. Wochenschr, 1896, xlvi, 7, 250*). This publication is a resume of studies made in 96 cases of scarlet fever in the Hôpital Trouman. It was taken for granted that the secondary infection in the severe cases of scarlet fever was due to the streptococci, and that by means of inoculations with anti-streptococcus serum, this dangerous complication might be avoided. Of the 96 cases four died; these cases, however, had been received only after the duration of the disease for a number of days. In two children who died in spite of the injections there were found present also Loeffler bacilli. The latter were found, together with the streptococci, in 15 other cases of scarlet fever. Two more of the fatal cases were suffering from uraemic poisoning. There was still another death, which was due to a double pneumonia as a complication. The results arrived at were the following: That the action of the serum is only temporary. The injections must therefore be repeated as often as an exacerbation takes place. The most marked effect of the injections is on the glandular swellings and the initial albuminuria. They do not, however, prevent the appearance of purulent albuminuria. He expresses the opinion for the present, that the remedy may do some good in scarlet fever cases.

ON ENURESIS AND ITS TREATMENT.

M. Mendelsohn (*Centralbl. f. d. g. Therapie, 1896, xiv, 49*). Thirty-two cases of enuresis, in its narrower sense, have been observed during the last few years by M., amongst which there were only three cases over 14 years of age. Aside from the many theories held as an explanation of this form of enuresis, it is probable that in the majority of cases the shutting off apparatus of the bladder is not fully enough developed to resist the detrusor muscles when the latter are reflexly excited through the impulse of the will. A deficient development of the prostrate gland frequently accompanies this lack of development. In support of this fact we have the experience that enuresis usually occurs during sleep (enuresis nocturna), and generally during the early hours of the night and morning; either because at this time sleep is exceptionally sound, or because the bladder is overdistended. In conjunction there may be morbid conditions through which a reflex may be exerted on the bladder, as for example rectal worms, obstruction of feces, masturbation and phimosis.

For the treatment of enuresis, bearing in mind the above causal facts, the following rules are to be deducted: The forming of a habit for the regular emptying of the bladder by day or night, cutting down the quantity of fluid during school hours and in the evening. In particularly obstinate cases the little patients should not be allowed any fluids from the early afternoon, on; particularly should those be excluded which contain alcohol or carbonic acid gas. It is unquestionable that (with an equal quantity of fluid in the bladder) the later the urine comes in contact with the internal orifice of the urethra so much later will the contraction of the detrusor muscles take place. Thus is explained the obvious effect of raising the foot-end of the bed in nocturnal enuresis. The bed should, after obtaining the good effects, be only very gradually lowered again to its horizontal position. Very good results have also been observed from the administration of tinct. rhois. arom. (10-15 drops frequently during the day). In enuresis nocturna one dose in the afternoon and another at night. In very obstinate cases he makes use of the well-known remedy by Trousseau, beginning with a dose of 0.005–0.01 grm. of the extr. belladonna and gradually increasing to ten times the quantity, this to be continued for weeks or even months. Occasionally the belladonna will act better in combination with extr. nux. vom. or strychnia. Chloral hydrat is sometimes of benefit. He does not approve of the different methods of sealing the meatus, nor those means used to keep the children from a sound sleep. Local faradization of the sphincters (by means of rectal rheophors), using a medium strength of the current, also gives some good results. They are to be applied daily for 5-10 minutes during four to six weeks. It will always be of some service to follow hygienic rules, cold washings, cool sitz baths, cool bedding, gymnastic exercises and repressing a too frequent desire to micturate, as much as possible during the day.

POISONING BY PHENACETIN RESULTING IN DEATH.

G. Kroenig (*Centralbl. f. d. g. Therapie, 1896, xiv, 24*) reports this case. An apprentice, 17 years of age, was admitted to the staedishe Krankenhaus am Friedrichshain in Berlin, with a provisional diagnosis of sepsis. He appeared much exhausted, complained of occipital pains, and pains in the region of the liver. Face and body were of a dirty-yellow color, the conjunctivae had a yellowish tint. Temp. 38.8, pulse weak and intermittent, and beat 124 in the minute. Respiration 32 and shallow. Pupils neither dilated nor contracted, reacting to light. No blue line on gums, lungs were found normal, heart dullness normal, heart sounds were faintly heard ; they were clear, and the apex beat was felt weakly in its normal position. The liver was somewhat enlarged, of denser resistance than normal. Spleen much enlarged. Abdomen markedly tender to pressure. Some pus was found in right external ear, and drum membrane perforated. There was no oedema or glandular enlargements. Examination of the blood revealed, aside from a great increase of the white corpuscles, a solution of the red globules in different stages, a veritable electrolysis. Accordingly, there was made the diagnosis of infection due to some form of blood poison, with that of probable sepsis. The patient had been given for his occipital pains five phenacetin powders, each containing 1.0 gr., with the caution not to exceed more than two powders a day. Even then the extraordinary pallor of the patient had attracted attention. After three weeks the patient returned, having used four of the powders without getting any relief. He was ordered to continue the same. On that evening the patient took one more powder. During the night he was seized with frequent vomiting spells. Next day patient was found in an extremely weak condition, with a blueish-gray discoloration of face and lips. The urine, drawn with a catheter was thick, of a dark reddish brown color, resembling nearly pure blood. Microscopical examination of the urine did not reveal a single intact, red blood corpuscle, but only red coarse-grained masses. Autopsy showed : Sepsis, methaemoglobinaemia universalis, dark pigmentation of spleen and liver. Tumefaction and hemorrhages into the kidneys. Pigment infiltration and necrosis of the renal epithelium. Double hemorrhagic pneumonia of the inferior lobes. Hypertrophy of the spleen and the follicles of the small intestine. Catarrhal gastritis and diphtheritic ulceration of the stomach. Hyperaemia and oedema of the brain, purulent chronic otitis media. The author is of opinion that the last dose of 1.0 grm. of phenacetin had undoubtedly produced the intoxication of patient, previously suffering from sepsis.

In the discussion following Frankel mentioned two patients who also showed bad symptoms following the ingestion of phenacetin. Two years ago a patient of his, after taking 0.5 grm. of phenacetin, was seized with stupor and great disturbance of the respiration. Since then he has never given an adult more than 0.5 grm. at a dose. An actress, 17 years of age, who was given 1.0 grm. of phenacetin, died in the same night. He would urge, always to begin with small doses.

Furbringer mentioned that a few years ago one of his patients was thrown into severe collapse from a dose of 0.5 grm. of lactophenin, while others bore doses of 1.0 to 2.0 grms. without any harm. Therefore, he would also recommend small initial doses.

Gerhard observed last winter, in a case of severe articular rheumatism, during the use of all such antipyretics as natr. salicyl., antipyrin, phenacetin, antifebrin, phenocoll, etc., most distressing symptoms and collapse. Only lactophen in doses of ¼ gr. was taken without bad symptoms. He would most urgently recommend careful use of all the antipyretics.

Treatment of Perityphlitis in Childhood.—A. SCHLOSSMANN (*Munch Med. Wochenschr, 1895, 41—Archiv. fur Kinderheilk, 3 and 4, 263*). The main points in medical treatment are the same in children as in adults. The author deprecates the use of laxatives and clysters in the early stage of the disease, as they may hasten the danger of perforation of the vermiform process, and advocates perfect immobility of the gut, an indication which is best covered by the enforcement of absolute rest in bed, ice applications, iced fluid food, and the administration of opiates. Regarding the dose of opium, one need not be anxious on account of its usual danger to children, as it is, according to experience, very well borne in all the inflammatory conditions of the peritoneum. It is impossible to fix the dose, but it should be given according to tolerance, which can only be measured by the behavior of the pulse and the pupils under its influence. In cases where vomiting is a prominent symptom, the narcotic should be administered in some iced fluid, or by means of suppositories. At the conclusion of the article the author mentions the surgical treatment of this disease, and confesses that an early use of the knife meets with his approval.

Correspondence.

BERLIN LETTER.

To the Editor of "Pediatrics."

Tetany.—In Berlin there is much active work being done in pediatrics. Recently, Dr. Hauser, assistant to Professor Henoch, read before the Berlin Medical Society a valuable contribution to our knowledge of tetany in children.

Dr. Cassel discussed the same question some time ago before the Society for Internal Medicine, and, in a recent clinical letter, Professor Baginsky called attention to a series of important symptoms in this disease, which have previously been overlooked. He will make this lecture the basis of a paper which he intends to contribute to Pediatrics.

Anti-streptococcus Serum.—A series of experimental researches with anti-streptococcus serum are being watched with great interest by Prof. Baginsky, the preliminary report of which was abstracted in the May 15th issue of Pediatrics. Through the courtesy of Prof. Baginsky, I will be able to send an early report for your journal. Hans Aronson, whose antitoxin is so well known, has succeeded in obtaining a new anti-streptococcus serum and is making many interesting experimental tests with it.

Rhachitis.—In the management of rhachitis, several important points have been recently brought out, and I hope to send you before long a detailed report of them, as well as a description of an ingenious apparatus which has proved of great value in the treatment of the kypho-scoliosis and other deformities of rhachitis in infants.

"Sonden Palpation" of the Stomach.—Dr. Boas' method of "sonden palpation" seems promising. He inserts a catheter through the mouth into the stomach, and the end of the sound can be felt through the abdominal wall, so that it becomes very easy to map out the position and size of the stomach.

Meningo-coccus.—Prof. Heubner has isolated a new germ which he believes is the cause of certain forms of cerebro spinal meningitis. It is called the meningo-coccus, and although it has been found previously at post mortem examinations, Heubner was the first to isolate and grow it from the fluid obtained from a living child by spinal puncture. It is a tetragenous diplococcus and is differentiated from that of pneumonia by the great rapidity with which the cultures lose their viability. Injections into animals of pure cultures of the meningo-coccus produce the typical symptoms of cerebro-spinal meningitis.

A new incubator is exhibited at the Gewerbe-Ausstellung, and I shall send you illustrations and a description of it in my next letter.

LOUIS FISCHER, M. D., Berlin.

Pathognomonic Signs of Congenital Syphilis.—P. SILEX (*Berliner Clinish Wochenschr*, *1896*, *xxxiii*, *139*). The following is taken from an address delivered before the Berlin Med. Gesellschaft :

The author recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions a chorioidea areolaris, in which are found scattered over the fundus, particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size, and larger areas with a black border. These represent atrophic colonies in the chorioidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved, vision in these cases is always very much impaired. Mercurial inunctions and exhibition of potassium iodide effected no change. In a few cases the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned, he only considers that one form pathognomonic where the permanent upper incisors present a central excavation, denuded of enamel, beginning on the surface for mastication, and continuing upward in the shape of a crescent. As a sign, which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case, which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillae, glands and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by him are due to a muscular tension of the skin. These three kinds of conditions, which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to a positive diagnosis of congenital syphilis.

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Original Articles.

A CASE OF RELAPSING INFANTILE SCURVY, FOLLOWED BY RENAL COLIC AND PYURIA.

By John Thomson, M. D.

Edinburgh.

THE case to which the following notes refer presents several features which I have not met with nor seen reported before, and which seem sufficiently rare to make them worth placing on record.

CASE.

The patient was a girl, aged nine months, whom I saw for the first time on 4th of July, 1894. She was said to be wasting, to be refusing her food, although thirsty for water, to be constantly screaming and to have unhealthy green motions.

Her parents were both dyspeptic, and of gouty families. There were three older children, all of whom were said to be frequently "bilious," and none of whom had ever been able to drink milk freely without suffering from indigestion.

Previous History.—At birth, the infant was very small and puny. As her mother was unable to nurse her, she was given a mixture of cow's milk, cream and barley water, with a little soda. This never agreed with her very well; she cried a great deal and had frequent diarrhœa. When about 5 weeks old she was put on Savory and Moore's "Infants' Food," made with milk, and she had taken that ever since. The amount she was taking in the 24 hours varied, but she never had more than 4 breakfast cupfuls of milk and 6 tablespoonfuls of the "Food," and frequently much less.

On several occasions, other foods such as raw meat juice, Mellin's Food, etc., had been tried for a day or two, but had always disagreed. The above diet had, therefore, been continued pretty constantly. For some months after it was first given it had seemed to agree, but recently—since she has been living in the country—she had not thriven on it at all.

A few weeks before I saw her a lump was noticed on the back of the chest, below the left scapula. It was not tender then. There was no history of any injury.

On Examination.—I found her a very pale, weakly baby, weighing only twelve pounds with her clothes on. She had no teeth, her fontanelle was very large, she had marked beading of the ribs, and some rickety deformity of the chest wall. She perspired very freely. There was a hard, painless swelling on two of the ribs, below the angle of the left scapula, probably due to callus, following a greenstick fracture. The extremities were very flabby and thin. The lower limbs were exceedingly tender to the touch, but no swelling of any of the bones could be found.

The heart and lungs were normal, the liver not enlarged, the spleen could just be felt below the margin of the ribs. The motions were large, pulpy and of a dull green color.

The urine was clear and normal looking when seen, but was said to be frequently turbid and reddish. Unfortunately it was not chemically or microscopically examined.

The child moaned constantly, and screamed loudly if touched or even approached by a stranger.

Treatment.—She was ordered Meigs' mixture of cream, milk, lime water; milk-sugar and water; it was to be boiled and given in gradually increasing amounts. The Savory & Moore's "Food" was reduced to two dessert spoonfuls in the day; it was found that unless the bottle was flavored with a little of this the child could scarcely be induced to take any.

Progress.—During the first fortnight the baby steadily improved in appearance, strength and appetite. She took about 30 ounces of the cream mixture each day and gained fully 1 pound in weight.

Relapse.—She was then taken to the country (East coast)—to the same place where she had formerly not thriven—the same treatment exactly being continued. The change of air seemed at once to have a very unfavorable influence on her. She lost her appetite, became irritable again and had unhealthy motions. She also lost weight at the rate of ½ lb. a week, and the tenderness of her limbs returned. On July 31st her urine was found to contain large numbers of blood corpuscles. Her parents were advised to bring her back to town as soon as possible.

On August 7th she was brought back. She was found to be in very much the same general condition as when first seen, and to be taking scarcely half the amount of cream mixture that she had formerly taken. There were also several new symptoms. Below each eye narrow dark blue streaks were visible, about the margin of the orbit, and these, on examination, proved to be ecchymoses. The gums were not swollen and there were no petechiae on them, but the rugae crossing the hard palate were swollen and of a dusky red color.

The urine was distinctly red and strongly acid ; it contained a considerable amount of albumin. Under the microscope a large number of red cells, a few leucocytes, a few squamous epithelial cells, and some rounded renal cells were found. There were also several blood-casts seen, in which the red corpuscles were intact, and many composed of their debris ; also several hyaline casts with red corpuscles sticking in them, and a few containing tolerably normal renal epithelial cells. There seemed to be some pain on micturition. The temperature was 97.8° F.

Treatment.—As the case was now clearly one of scurvy, a dessertspoonful of orange juice was ordered every eight hours, the diet otherwise remaining as before. Two days later an emulsion of cod liver oil was ordered (half a teaspoonful thrice daily).

Progress.—Under this treatment the child rapidly improved, so that within six days she had gained fifteen ounces in weight and the tenderness and irritability had, to a large extent, disappeared. The urine had also lost its red color, but it still contained a trace of albumin and showed colored blood corpuscles, a few fragments of blood casts, and amorphous urates under the microscope.

During the following three weeks the improvement continued steadily. The urine became quite normal by August 29th, and remained so. The weight increased so that in 29 days of treatment she gained 49 oz. Grape juice was now substituted for orange juice, and the dose of cod liver oil doubled.

About this time the child was taken for a part of the day to the place in the country which had formerly disagreed with her. The air seemed at once to affect her so that while there she refused to take her bottle ; when, however, she came home at night, her appetite returned and she went on as usual.

After this the improvement was maintained for several months, the infant gaining 4 or 5 oz. each week, looking stronger and happier and taking the cream mixture well, although still unable to digest plain milk even when considerably diluted. In November, yolk of egg and raw meat juice were added to her diet, and in December, Chapman's Wheat Flour. As there were no longer symptoms of scurvy, the fruit juice was discontinued in the course of the winter.

Relapse.—In the spring of 1895 I saw the child again and found her thin, extremely irritable and tender (especially about the legs), with more signs of rickets but with no hæmaturia, and with no further distinct indications of scurvy. Several of her teeth were being cut and her gums were sore, although not spongy, and this was supposed to be largely responsible for her irritability. For some months this unsatisfactory condition continued; slight improvement being always followed by relapse.

On June 2, 1895, I had again an opportunity of examining her thoroughly. She was now worse than I had ever seen her before—irritable and tender to a most distressing degree, as well as much emaciated. The pain was apparently only present when the parts were touched and it seemed to be in the bones or periosteum, certainly not in the joints. It was much most severe over the sacrum and in all parts of the lower limbs; the toes were so tender that the nurse found it impossible to cut the child's nails. The arms and thorax were also tender, but to a much less extent. The upper gum was slightly swollen, but not dark in color, and there were no ecchymoses. Epistaxis had occurred several times.

The urine was very acid; there was a deposit of amorphous urates and a slight trace of albumin. Under the microscope a good many red corpuscles were found, and a few fragments of blood-casts, similar to those noted previously.

The child was taking practically nothing but the cream mixture (14-16 oz.) flavored with Savory & Moore's Food (a tablespoonful in the twenty-four hours). It was only with great difficulty that she could be induced to take this amount, although she willingly drank water whenever it was given her.

Treatment.—On the following day, June 3, orange juice and potato pulp were ordered in increasing quantities.

Progress.—Within four days the child had improved so much that her nurse thought her better than she had been for two months. She scarcely cried at all now when being washed and dressed, and when left alone kicked about her legs voluntarily as she had not done for long. All trace of blood and albumin had disappeared from the urine. Under the microscope numerous large lozenge-shaped crystals of uric acid were seen and a few oxalates. The motions were still loose, but more healthy.

During the next three weeks the infant steadily improved, rapidly lost all her unnatural tenderness and took regularly large quantities of the cream mixture, along with six teaspoonfuls, daily, of potato pulp (which she greatly dislikes), and the orange juice as before.

On June 24th she began crying a great deal, evidently from some pain, although the seat of it was difficult to ascertain. The screaming occurred in paroxysms, which returned at frequent intervals through the day and also at night. Her limbs were not at all tender now, but pressure on the back and loins seemed to cause pain.

Next day she was no better. The urine was found to be very acid, pale, turbid, with a trace of albumin. On microscopic examination, numerous pus cells were found, but no blood corpuscles or crystals.

On June 27th she was worse every way. Temperature 101.6. Rapidly losing flesh. Pain evidently very severe, and constantly recurring. Micturition always preceded by pain. Urine contained numerous pus corpuscles.

June 28th. Temperature 102°. No improvement.

June 29th. As before. Ordered pot. citrat. grs. iii every 2 hours, and tinct. hyoscyam. ♏ v. every 4 hours. This was followed by considerable relief and she had a quiet night. Next day the temperature was subnormal, although there was no change in the state of the urine.

July 2d. Bladder sounded under cholorform; no stone found.

July 3d. Child a little easier, pain less frequent and less severe, no tenderness, gaining in weight. Urine less acid, clearer and containing fewer pus corpuscles.

During the next fortnight the baby steadily improved and the pains ceased. The urine became clearer and there were only a few pus cells to be found; occasionally there were an enormous number of very large brown uric acid crystals, mostly lozenge-shaped.

By August the urine was absolutely normal, and the child was beginning to try to walk for the first time.

During the ten months which have since elapsed the child has continued to thrive, so that she has now evidently got over her tendency to scorbutus.

Remarks.—We had then in this case a baby presenting signs of dyspepsia and malnutrition of scorbutic origin, although without any pathognomonic symptom of this disease. When she was given a more satisfying and somewhat fresher diet she improved so long as she took plenty of it, but when she lost her appetite under the influence of an uncongenial change of air the symptoms returned, and there were added to them some which were undeniably those of scurvy.

The unfavorable effect of the East coast climate on the child was most unexpected, but was proved over and over again by experiment. When she was taken out of town on the inland side of Edinburgh, on the other hand, her appetite improved instead of falling off.

The complete efficacy of fruit-juice, without any other change in the diet, was very striking—as it often is in such cases.

Another point of interest in the case was the predominance of the urinary symptoms. The significance of haematuria in the diagnosis of infantile scurvy has been insisted on by Dickinson,[1] Gee[2] and others. This case illustrated further the importance of examining for even microscopic traces of blood in the urine[3].

The paroxysmal pain, with lumbar tenderness, and followed by the passage of uric acid crystals, was regarded at the time as probably of the nature of renal colic. This belief has since been strengthened by reading Dr. R. A. Gibbons' interesting paper on that subject[4].

The pyuria was probably due to pyelitis. I understand from Dr. Barlow that he has met with this condition in cases of infantile scurvy. It is, of course, a recognized symptom of the disease in adults.

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[1] "Renal and Urinary Affections," 1885, Part 3, p. 1287.

[2] St. Bartholomew's Hosp. Rep., Vol. xxv, 1889, p. 85.

[3] See L. Conitzer, Munchener med Wochenschrift, 1894, No. 11 and 12.

[4] Trans. Med. Chir. Soc. Lond., Vol. lxxix.

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A NEW HOSPITAL FOR CHILDREN AT BUENOS AYRES.

By George Mackern, M. D.,
Buenos Ayres, Argentina.

THE new children's hospital in course of construction at Buenos Ayres, Argentine Republic, is situated at the extreme Northwest, one of the highest and most open parts of the city. The total space covered by the buildings and gardens is over 25.000 (twenty-five thousand) square yards, or nearly five acres—a magnificent site, acquired some years ago by the *Sociedad de Beneficiencia*, which is a charitable society, conducted entirely by ladies of the upper classes.

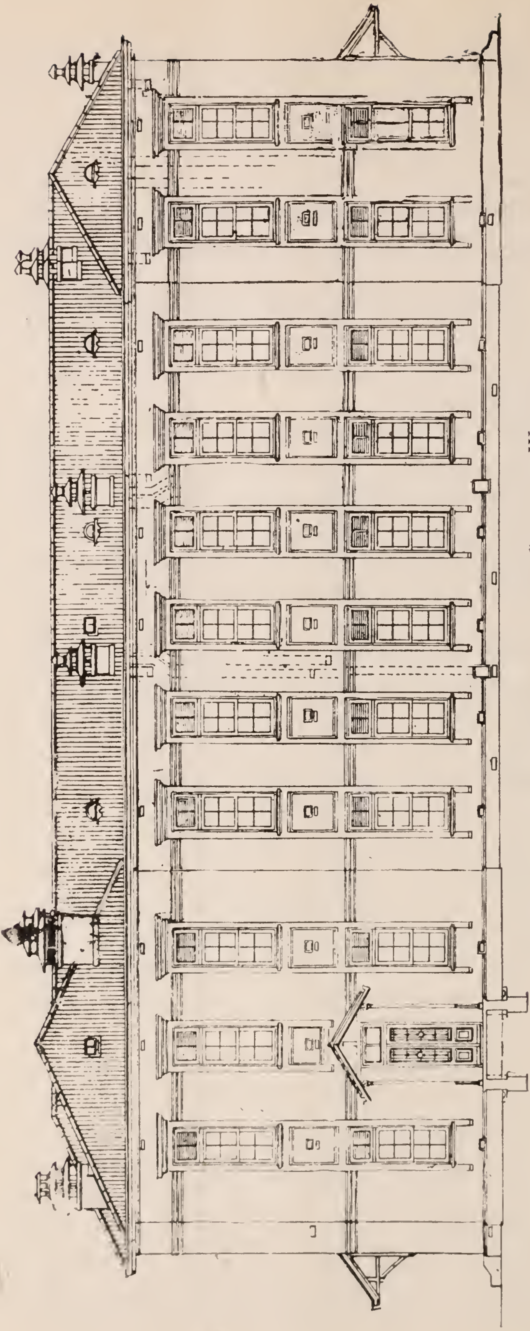
The hospital is eventually to cost one million of dollars (now about £65,000), exclusive of the site, but only six hundred thousand dollars are at present available, and most of this money has been raised by a lottery, the Government also donating two hundred thousand dollars. The architect is Mr. A. Christophersen of this city, who exhibited the plans at the Chicago Exhibition and obtained a first prize.

The hospital is made up of the principal groups of buildings, one including ordinary medical and surgical wards and an operating theatre, and the other comprising separate wards for contagious diseases. Wide avenues of trees and gardens will separate and effectually isolate the one group from the other.

As will be seen from the plans, the system adopted is that of separate pavilions, those of the first group communicating with each other by means of corridors, consisting of an iron roof, supported merely by iron pillars, while those of the second or contagious diseases group are completely separated from each other.

The entrance to the hospital will be through the Administration Block, a three-storied building, with two side wings, enclosing a large airy *cour d'honneur*.

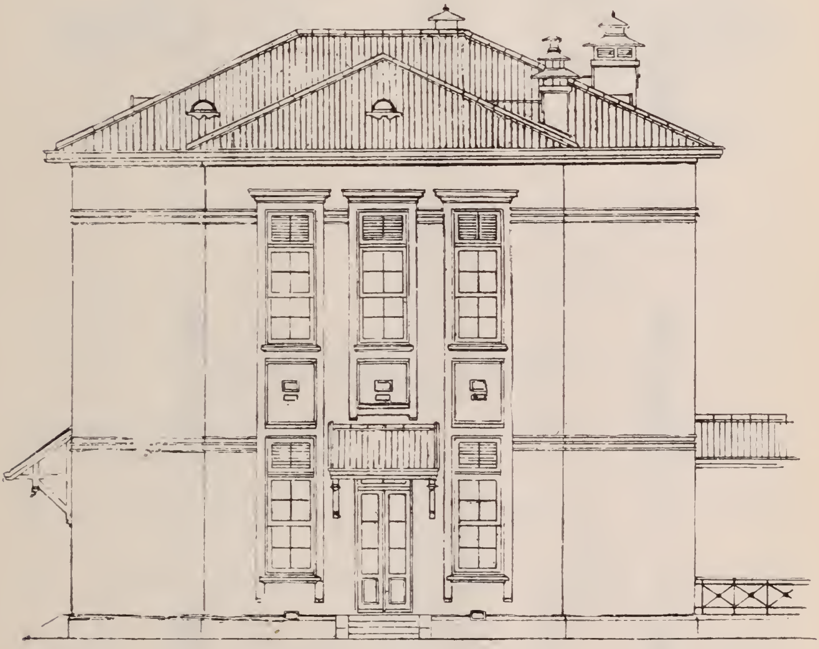
This building contains, besides the ordinary offices for administrative purposes, the out-patient department, which is arranged as follows : a spacious waiting-room, then two small rooms communicating with each other by a small window, and opening into a large and well-lighted consulting-room. The child is undressed in one of the small rooms, goes in naked into the consulting-room, and its clothes are passed through the window into the other small room, where it is dressed again after being thoroughly examined. Arranged in this way, the out-patient department becomes a practical



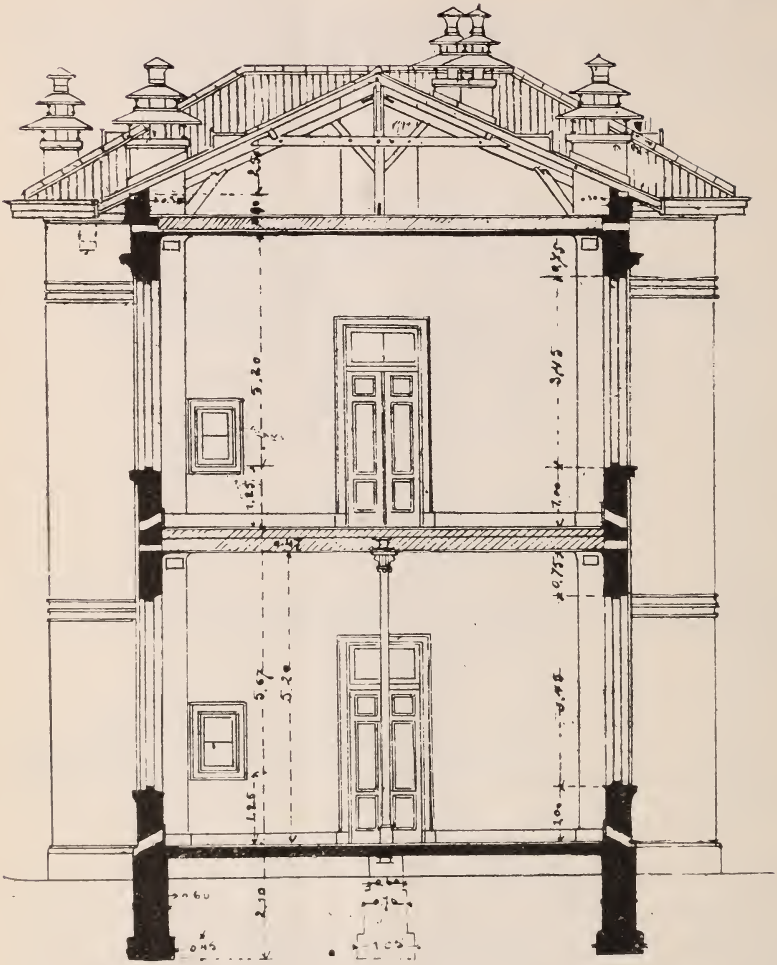
Side View of the Medical and the Surgical Wards.

and valuable means for clinical work. The pharmacy and lavatories are all on the same floor. Upstairs are the rooms for the resident medical officer and ten clinical assistants, and quarters for the dispenser and the nurses who, being all Sisters of Mercy, have their own separate staircase, refectory and isolation ward (in case of illness).

The Operating Theatre stands alone in the center, as it were, and communicates by corridors with the wards and administration. The large operating-room is lighted by huge low windows on both sides; its walls are cemented and the corners rounded off, so that a hose at strong pressure can be directed to all parts and the walls thoroughly washed. Dressings and instruments are kept in specially-designed niches, and the deposits for disinfecting and other fluids are all *outside* the pipes running through the wall into the theatre.



The washing stands are of marble, and so arranged that hot and cold water can be admitted by merely touching a pedal with the foot. The sterilizing apparatus is most complete, the model being that of Geneste & Herscher. There is also a smaller room for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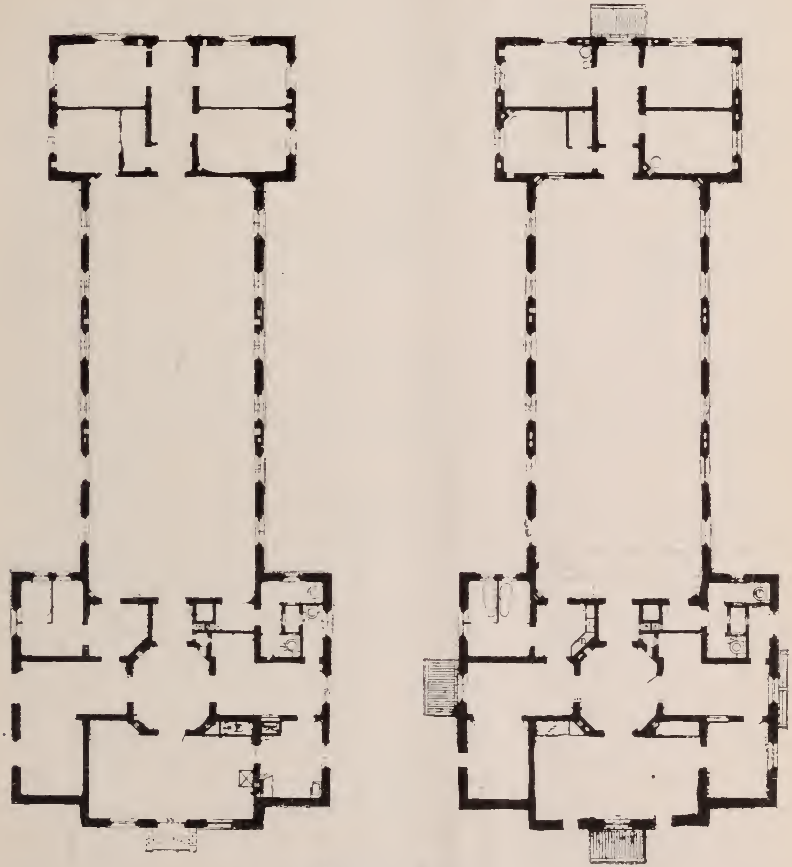
1.05

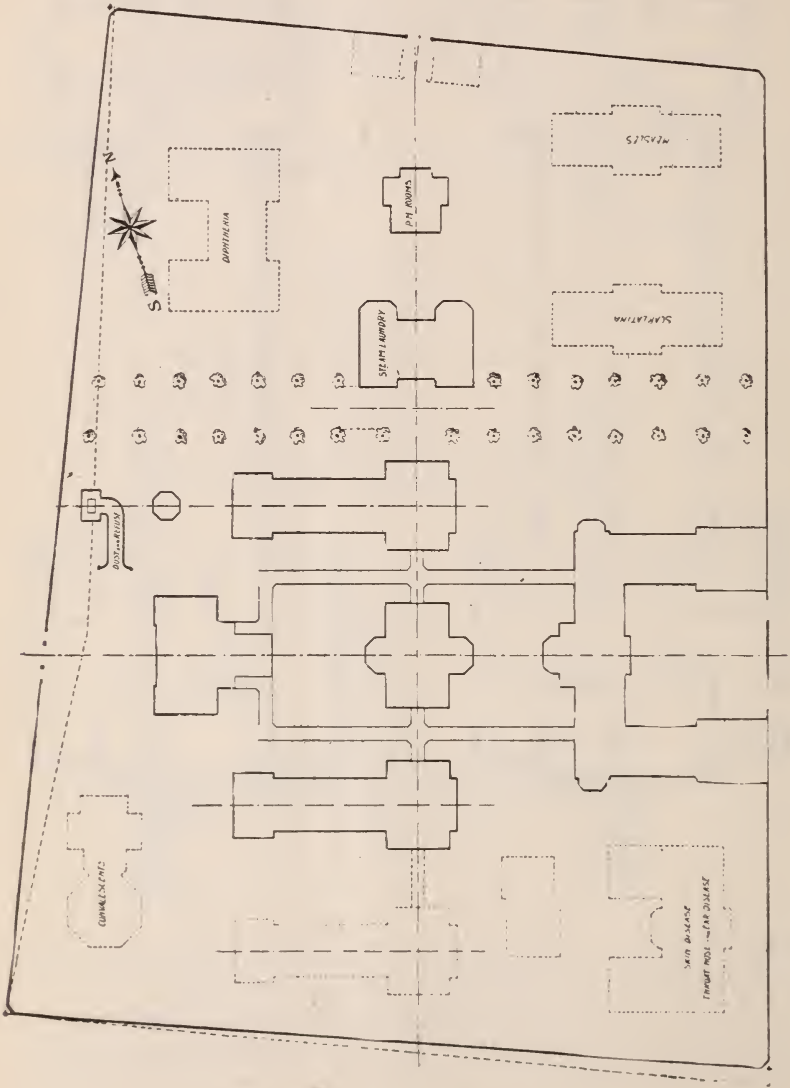
operations, two small wards with beds, and a bath-room—all attached to the operating theatre.

The theatre is connected with the general hot air system running through the whole hospital, but the temperature can be raised to 75° or 80° in a few minutes by turning a special tap.



Medical Wards.

Medical and Surgical Wards are identical in form and size, and consist of two floors, the upper for boys and the lower for girls. Each ward contains twenty-four beds, but in cases of emergency another row of ten or twelve beds can be placed down the middle. Connected with each ward are three isolation-rooms, each containing two beds, for cases which require quiet and separation from the large ward. The baths and lavatories are on one side, and the W. C.'s on the other. There are also a nurse's room, a room fitted



up with lockers for the patients' clothes, and a small hall or vestibule, which is also a dining-room for those able to be up. Light and air are admitted by twelve large sash windows on each side, and the coils of the hot water apparatus are arranged in such a way that in winter all the air can be heated before it enters the wards.

Steam Laundry and Disinfecting Chamber.—These occupy a one-storied pavilion, with the boiler and steam-engine in the basement. The soiled linen and other clothes are passed in by a special entrance to the disinfecting chamber, and from it pass across a screen to an employee, who is never in contact with the others employed on the other side in disinfecting; the disinfected clothes then pass by a lift to the floor above, where they are washed, dried, ironed, mended and sorted out, all in separate rooms. The only exit from the disinfecting chamber is through a bathroom, where the employee is supposed to have a bath and change his clothes on leaving his work.

Mortuary.—A building on the extreme right, consisting of a small vestibule with a place on either side for the bodies, and a good-sized post-mortem room with all necessary appliances. The bacteriological and other laboratories are all in the central administration block.

Kitchen and Service are in a separate pavilion at one end, with servants' dining-hall, stores, pantry, ice chamber, etc., etc. The food for the entire hospital is prepared in this kitchen.

This briefly describes what is now almost completed, but the plan includes also a special pavilion of two stories, the lower for skin diseases and the upper for diseases of the throat, nose and ear. There is also to be built another pavilion for convalescents, to contain twenty-four beds and large, airy recreation grounds.

The Contagious Diseases group of buildings will consist of one pavilion for diphtheria, one for smallpox, and a double one for scarlatina and measles, with separate consulting-rooms.

From what has been said it will be seen that Buenos Ayres will soon be supplied with what promises to be a model children's hospital, containing 340 beds, and, from what I know of the physicians and surgeons attached to it, I look forward to being able to give PEDIATRICS from time to time interesting reports of clinical work and original research.

Llobet at the Rawson, and Castro and F. Perez at the clinical hospitals, are working up a high reputation for Argentine surgery, while Penna, Wernicke, Susuri and Uballes are doing good solid work in bacteriology and clinical medicine.

ANTERIOR DISPLACEMENT OF THE HIP (CONGENITAL).*

By DeForest Willard, M.D.,
Philadelphia, Pa.,
Clinical Professor of Orthopaedic Surgery, University of Pennsylvania ; Surgeon to the Presbyterian Hospital, etc., etc.

Anterior displacements of the head of the femur from congenital deformation of the acetabulum, or of the head and neck of the femur, are quite rare ; only two or three American cases having been reported. Hence this record.

The patient was a boy, aged 11 years. No history of injury at birth or later. Began to walk at one year of age, but parents were not positive as to whether they noticed any peculiarity of gait until he was three years of age. Gait at present is a decided limp, from shortening of the leg, but the waddle is not characteristic as seen in cases of posterior displacement. There is only a moderate amount of lordosis, since the position of the head of the bone does not necesitate marked accommodation of the spine.

Viewed anteriorly, two inches below the right anterior superior spinous process, and in a line with it, is a hard prominence which rotates in unison with all the movements of the femur. The neck of the bone can also be easily distinguished. The trochanter is more prominent than normal and broadens the limb at this point. The head apparently lies upon the ilium directly above the normal position of the acetabulum ; it does not slide during locomotion. Adduction and rotation can be performed to nearly the usual limits, but abduction is interfered with when the limit reaches ten degrees outside of the straight line. Flexion is normal ; extension slightly limited. The head can be outlined without much difficulty, and the peri-articular muscles all seem in good condition. The head does not lie upon the ramus of the pubes, nor in the thyroid foramen, as ordinarily seen in anterior traumatic dislocations, but is directly above the socket.

Posteriorly, the right buttock is broadened and slightly flattened and the trochanter more prominent.

The boy can stand upon tip toe on the right side, but the leg and thigh are slightly atrophied, being half an inch less in circumference. The distance from the anterior spinous process to the knee is one and a quarter inches less than the left, when the leg is straight; but when the thigh is flexed to the right angle the knees are in line owing to the upward position of the displacement. It is probable that the deformation consists in a false acetabulum above the site of the true one, rather than that the acetabulum is oval in shape.

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* Read before the American Orthopaedic Association, May, 1896.

The motions of the femur nearly approximate the normal, and, as there is no sliding motion, shortening is the only practical deformity. It is difficult to see how any operative interference would be beneficial, since lordosis is slight, and the power of the muscles connecting the trunk with the femur would certainly be diminished by interference. Lengthening the limb artificially is all that is advisable. As this procedure corrects the limp and the interference with locomotion is so moderate, it is difficult to see how a Hoffa or Lorenz operation would improve him.

I have seen a number of cases of variations in the hip articulation which have differed markedly from the typical condition of congenital dislocation. Some of them have very probably been from fractures or dislocations or epiphyseal separations. In some cases the femoral neck has been shortened and even distorted and twisted possibly coxa vara; while in other instances there has been an appearance of an old injury. In the majority of cases the injury has been unrecognized (according to the history), thus leaving the question of pre-natal or puerperal injury uncertain. The first evidence of the condition has been the irregular gait which the child exhibited when commencing to walk; or, perhaps, the disability was not noticed until a year or two later. In the majority of cases the growth of the limb has been so altered that there has been a difference of from half an inch to two inches in length.

When the head of the femur is fairly well confined in its movements upon the ilium, diagnosis is sometimes difficult. It is probable that although the condition has existed from birth, the cause may have been traumatic even within the uterus. In this deformity, as in others, it is quite possible that violent coition during the first month of pregnancy may influence the embryonic mass, especially if the ovum has attached itself in the lower segment of the uterus.

The diagnosis of anterior position of the head of the femur from acute bending of the neck of the femur, as described by WHITMAN (*Trans. Am. Orthopædic Assoc.*), is not difficult.

About the trochanter the conditions are similar. In misplacement, however, the head of the bone can be plainly distinguished in its abnormal position. Trochanteric rotation is altered. Bending of the neck may or may not be associated with rachitic deformities; yet it must be due to some softening of the bone akin in character.

The trochanter in acute bending is above Nelaton's line, while in anterior displacement it is both above and in front of its normal position. Mutter, of Germany, in 1889, first described this condition, as it usually occurs in children about the age of puberty, probably due to causes similar to those which produce lateral curvature.

Leeser (*Presse Medicale, Oct. 5, 1895*) states that rachitic symptoms co-exist.

Acute bending is most liable to occur in those who have heavy weights to carry, or who are subjected to prolonged standing while in a debilitated condition; but there must be some local fault to cause the deformity, as it frequently occurs on one side.

Drs. Ridlon and Phelps have both reported cases of anterior dislocations.

In Dr. Phelps' case (*Trans. Am. Orthopædic Assoc. Vol. iv., p. 132*), the child died of acute spinal meningitis one and a half years after treatment was commenced. The specimens showed that the case was one of congenital dislocation, probably in utero, with non-development of the acetabulum. Whether this occurred from traumatism, or from some reflex spasm of the muscles caused by central nerve lesion in early foetal life is uncertain.

Ketch (*Keating's Encyclopedia of Children*) does not believe that the condition is due to injuries at birth.

In Phelps' case, the head of the bone lay in front of its normal position. The leg was shortened and the toes were rotated inward. The acetabulum was angular in shape, small and undeveloped.

My own belief is that traumatism inflicted during delivery is productive of fractures or dislocations to which the plastic anatomy of the infant adapts itself and gives only a moderate amount of subsequent deformity. In breech presentations a hook is frequently placed over the thigh of an infant and strong traction made upon the tissues; certainly sufficient to displace a bone or break the rim of the acetabulum.

The treatment proposed is prolonged extension in bed, followed by the use of an apparatus to continue extension, as recommended by Bradford (*Trans. Am. Ortho. Assoc. Vol. iv, p. 308*), the individual being kept under extension in all positions of the limb. For locomotion, a long fixation splint may be used, or a jointed locking and unlocking splint with leg and thigh envelopment. The method of forcible manipulation during the process of extension probably produces a certain amount of adhesive inflammation.

In RIDLON'S case (*Trans. Am. Orthopaedic Assoc. Vol. 2, p. 76, 1889*) the head of the femur lay almost directly below the anterior iliac spine. The leg was shorter than its fellow. Forcible traction by Taylor's extension hip splint was continued in bed for an entire year, after which the child walked upon a long traction splint, the shortening being reduced from three inches to half an inch, although at the time this case was reported continuous traction was still in force and no weight had been borne upon the limb.

In another case which I have recently seen (a girl two years of age), the left leg was three-quarters of an inch shorter than the right one, and she walked with a decided limp. The head was freely movable upon the ilium, nearly an inch, in an upward direction. The trochanter was prominent, but was not displaced backwards. The head of the bone could be distinctly outlined, apparently lying upward and slightly forward.

SPECIFIC URETHRITIS IN VERY YOUNG BOYS.

By BERNARD WOLFF, M.D.,
Atlanta, Ga.

WITHIN the last year I have seen two cases of specific urethritis in very young boys. I append brief notes of the cases, which may be of interest to your readers not only from a professional but also from a sociological standpoint.

CASE 1.—A poorly nourished negro boy, three years of age, was brought to my clinic for treatment of frequent and painful micturition of a week's duration. Examination revealed a penis of unusually large size, with a swollen and oedematous prepuce, from the everted orifice of which a stream of thick, greenish-yellow pus was issuing. A slide was obtained from this, which was found after staining with carbol-fuchsin to be swarming with gonococci.

The mother of the boy stated that she shared her small house in the negro quarters with a family in which there were a number of half-grown girls and that shortly before the boy had begun to complain of pain on urination, she had detected him in the act of copulating with one of these girls.

CASE 2.—A well-developed negro boy, five years old, was brought by his parents for treatment of cystitis that had existed for ten days. There was an almost continuous dribble of urine and great pain and distress in the region of the bladder. A small quantity of pus was obtained by stripping the urethra and stained with methyl-blue. It was found to contain a considerable number of gonococci. The boy's mother expressed no surprise when I informed her of the nature of his trouble and said that she had already suspected it, as the boy slept with a mulatto girl of fourteen and that she had several times been caught in the act of drawing the boy on top of her. When remonstrated with, she had feigned ignorance of the meaning of the reproof. I had an opportunity of examining this girl some time afterwards and found her suffering from vaginitis, presumably of gonorrhoeal origin.

These cases, while not unique, are of sufficiently infrequent occurrence, especially when the disease is contracted by actual sexual connection and not accidentally or intentionally inoculated, to be of interest. They serve to illustrate the extreme precocity of the sexual instinct in the negro.

The Use of Tannigen in the Diarrhœas of Children.—ESCHERICH (*Centralb. f. d. g. Therapie, 1896, xiv, 371*). Tannigen, a diacetyl of tannin, is insoluble in the mouth and stomach, but soluble in the alkaline contents of the intestinal tract. E. takes for granted, that in spite of the acid reaction of the chyme in infants, there are certain portions of the intestinal lumen, where neutral or alkaline juices are secreted, in which tannigen may be dissolved and do its work. This alkaline reaction is certainly not absent where the intestinal mucous membrane is in a state of irritation, and just in these portions which are diseased can tannigen produce its effects. He thinks it, however, contraindicated in acute inflammatory affections of the bowels, and in the accompanying transudation of serum into the gut. It is least indicated where there is an increased secretion of mucus. Very likely tannigen acts as a disinfectant and subduer of abnormal fermentation, and the formation of toxins, which go hand in hand.

The results in subacute and chronic intestinal catarrhs of children have been very gratifying, mainly in diarrhœas with the discharge of much mucus.

The good results are often noticed within one and two days, and the drug must then be stopped, so as not to produce constipation. In chronic cases it must be given for a longer time. He recommends large doses—0.25 grm. of the powder for children up to one and a half years of age ; 0.5 grm. for older ones, given four to six times a day. The powder can conveniently be mixed with the food, as there is no bad effect following it.

The results in acute intestinal catarrhs, and in the beginning of an enteritis follicularis were not quite as good ; here it should only be given until mucus appears in the stools.

THE CARE OF THE EAR IN CHILDREN.

By Macleod Yearsley, F. R. C. S.,
Surgeon in Charge of the Ear and Throat Department, the Farringdon General Dispensary, formerly Clinical Assistant to the Ear Department, Westminster Hospital, and to the Central London Throat and Ear Hospital, etc.

IT is hoped that the time is passed when the general practitioner's stereotyped reply, "The child will grow out of it," to all inquiries by anxious mothers was used as a cloak for his ignorance of aural surgery. If in the present day there are still left a few of the old school who do not believe the teachings of those of a younger generation, the more efficient instruction and the better opportunities enjoyed by modern students of medicine will gradually cause the extinction of old-fashioned notions and a resulting salvation of still more children, who, through want of timely and common sense treatment, would formerly have been doomed to a more or less maimed existence. The discovery of adenoid vegetations of the naso-pharynx by Meyer, of Copenhagen, in 1868, gave the first impulse to a better understanding of some of the troubles which beset the earlier lives of our children, and there are few men more worthy of honored memory than he whose researches have saved many a little one to its parents.

Although the improvement in nursery hygiene and attention to the special senses has been great during the past twenty years, there is still much that is wanting. The practitioner who is responsible for the safety of the child through the tortuous paths of infantile disease must keep a sharp look out for complications which may ruin eye or ear, and a few short directions as to the care of the latter can never come amiss, however frequently they may be repeated.

The two commonest diseases which may ruin the delicate hearing apparatus of the child and handicap him in his future life are Post Nasal Growths and the specific Fevers. For those who want a picture of the havoc wrought by unrecognized adenoids, no better one has been drawn than that by M. Potiquet* of the death of Francis II. of France, the first husband of Mary Queen of Scots. How much of Mary's troubles, how much of such horrors as the massacre of St. Bartholomew, may not have been indirectly caused by the unchecked growth of the post-nasal vegetations? Francis died of meningitis (or cerebral abscess) dependent upon suppurative otitis media. Happily modern children are safe from a fate which must have claimed their ancestors by the hundred.

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* La Maladie et la Mort de Francois II, roi de France.

The diagnosis and treatment of adenoids is so well known that further reference thereto is scarcely needed here ; but a few words upon one or two questions that have been much discussed will not be out of place. In the first place, there is the question, Ought we always to operate upon adenoid vegetations? Hernet* has advised postponement of operation unless there is manifest want of development, inaptitude for work, persistent headache, or aural complications, and acting upon this principle he states that he has operated upon only fourteen cases out of 103 seen in eight years. There are many who will doubt the wisdom of this advice. Surely there is a chance of postponing an operation (which, properly done, is attended with a minimum of risk) until too late. One cannot always keep within sight of one's patients, and the flood of the tide is easily missed. Hernet mentions cases which, without operation, grew up tall and strong, *but still continued mouth breathers*, the adenoids persisting for ten years. Now, that so much is known of the respiratory functions of the nose and the evils of nasal obstruction, there can be but little excuse for the exposure of a patient, especially a child, to the dangers of permanent mouth-breathing. Readers of Dr. Sims Woodhead's paper on "The Channels of Infection in Tuberculosis"§ will find another argument in favor of operating for adenoids. It is true that a few selected cases do well under the nasal injection of glycerine of tannic acid, suggested by Dr. Pritchard, but even in those cases the surgeon must be ready to operate if necessary. French, of Brooklyn, has said, "The sooner the operation is performed the better, for there can be no more valuable tonic than that which results from re-establishment of nasal respiration."

Another question which has given rise to much difference of opinion is that of an anaesthetic. There are few cases in which, when an anaesthetic is necessary, gas is not sufficient. In young children the examining finger can often do all the work, and it is rarely that an anaesthetic is required. Personally, I do not consider (and I believe there are many who will agree with me) that one is justified in submitting a patient to the risk of chloroform in operating for adenoids.

The third question to which reference may be made is that of the results of operation. Recurrence is probably due to the increased growth of small patches of adenoid tissue hitherto kept under by the pressure of the larger growths removed. It has been suggested that the popular method of rapidly operating is to be blamed for this, but rapid need not mean imperfect work. I have elsewhere pointed out that, when the naso-pharynx is clear, a final scrape should always be given to remove any point of lymphoid tissue which cannot be felt. The proper carrying out of after treatment will have influence in reducing the number of cases of so-called recurrences, for, as Dr. Dundas Grant has indicated, recurrence of symptoms does not always prove recurrence of growth. The proof of the good effects of the removal of adenoids is quickly manifested in children, and for the rapid improvement in the rate of body-growth, I would refer the reader to a paper by Castex and Malherbe in *La Presse Medicale*, March 31, 1894.

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* Journ. Laryngol., IX., 1895, p. 456.

§ The *Lancet*, Oct. 27, 1894.

Turning now to the exanthemata, the amount of mischief still allowed to go on from a want of proper attention to the ear during their course is scandalous to a profession which prides itself upon its progress. Otitis media suppurativa occurring during or after the specific fevers is pre-eminently preventable, and yet two-fifths of the cases of middle-ear disease claim measles or scarlet fever as a cause.* The exercise of a due amount of care of the nose and throat during the course of those diseases should materially reduce the number of these cases. Both measles and scarlet fever are particularly liable to accompanying throat complication, a complication tending especially to involve the nose and Eustachian tubes. The tumefaction, together with the increased and tenacious secretion, quickly blocks up the latter, and gives rise to a retention of catarrhal products in the tube and tympanic cavity. This retention is further helped, as pointed out by Dr. Walker Downie,§ by the dorsal position of the child in bed. The patient is rendered still more liable to the condition by the presence of adenoids or hypertrophied tonsils.

Now, the implication of the throat cannot be prevented, but the blocking of the Eustachian tubes and the retention and consequent suppuration in the tympanum can, and that by simple methods. In older children encouragement to a frequent use of the handkerchief will relieve the throat and nose of the collection of thick, tenacious mucus, and gentle politzeration will help to keep the tympanum properly ventilated. In infants who are too young to use a handkerchief properly, Politzer's douche must be employed alone, and

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*On the care of the ear during the course of the exanthemata, by Walker Downie, M.B., *British Medical Journal*, Nov. 24, 1894.

§ *Locus cit.*

this applies also to patients whose posterior nares are blocked by adenoid growths. These means, combined when necessary with lavage of the naso-pharynx, will prevent or quickly relieve the earache caused by intratympanic retention of catarrhal products, and in every case of scarlatina or measles in which the throat is implicated they should not be neglected or postponed until called for by aural symptoms.

It is important also that an examination of the ear be made from time to time, for considerable mischief may occur before attention is directed thereto, especially in young children. If suppuration be already established before the ear is examined, especially if there be a sudden rise of temperature, the membrana tympani should be incised at once. This minor operation should not be delayed, as a slit-like incision in the membrane heals very quickly, whereas if the pus be allowed to make a way through the drumhead for itself, the patient will in all probability be left with an unhealed perforation, with all its many possibilities. Incision is also indicated when there is acute pain in the ear, which is unrelieved by Politzerization. Incising the membrana tympani (" myringotomy ") is a perfectly simple and safe procedure, provided it is properly done, but there can be no doubt that a great deal more harm may ensue by neglecting it than by performing it in a clumsy manner. Before its performance it is well to antisepticise the meatus with warm perchloride solution (1 in 2,000) and to instill a few drops of a 10 or 20 per cent. solution of cocaine. The best instrument to use (and many have been designed for the purpose) is a shouldered myringotome, as the shoulders prevent any damage being done by an unskilled hand. The " tympanotome " suggested by Dr. W. F. Core* is also a good instrument. The head of the patient requires to be firmly held, the membrane must be made distinctly visible by good illumination, and it should be perforated in the inferior posterior quadrant, where the bulging is usually the most marked. Inflation will then clear the tympanum, and gentle syringing with warm antiseptic solution will be all that is required until the opening is healed.

It is not, however, only of the care of the ear during other diseases that I would speak; with children it should be guarded as carefully during health as at other times. Mothers and nurses often do harm through ignorance, and the general practitioner has opportunities from time to time of giving them hints, the most apparently trivial of which may be of value. I have seen ears damaged by unskilled efforts made at cleaning the meatus with a pin or the objectionable spoon-shaped appliance sold for the purpose, and those in every-day charge of children should be impressed with the fact that gentle wiping with a soft towel is all that is necessary. It is a good practice to put wool in a child's ears during its ablutions, for cold water may cause not only pain but inflammation, and, when the meatus is wetted, careful drying should never be neglected.

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* New York *Medical Record*, Nov. 9, 1895.

This use of wool in the meatus is especially necessary when the child is bathing in the sea or taking sea-water baths. The action of such bathing in causing aural exostosis is well known.

Of the reprehensible habit of striking children on the head or "boxing the ears," nothing need be said. Nature has gifted the human child with an ideal place for correction, and parents do not seem to realize the importance and delicacy of the organs contained in the skull or the grave mischief that may be caused by blows in that region.

In conclusion, one may ask whether, considering the care bestowed upon the sister sense of sight, there is any reason why an equal amount of attention should not be paid to hearing. Of the relative importance of the two senses one cannot speak, but the ear is quite as delicate as the eye, and there is no more excuse for neglecting to prevent a suppurative otitis media or to treat it when present than there is to allow a purulent ophthalmia to run its course unchecked.

Treatment of Malaria in Children.—Moncorvo (*Rio de Janeiro-Centralbl. f. d. g. Therepie, 1896, xiv, 248*) says that the administration of quinine is difficult, both on account of its bitter taste, and the intolerance of the baby's stomach. The studies of the author related to helianthus annuus, methyl blue, phenocoll and asaprol. Helianthus annuns (the sunflower) inhabits Peru, but is now frequently raised in gardens. His researches were made with an alcoholic extract of this plant made from the leaves and blossoms. In 61 cases of malaria in children from the ages of one month to twelve years, it was given in doses of 1-6 gr. in 24 hours. The results in most cases were prompt, and not followed by any bad after effects. In a few cases where quinine had been taken without any result, the effects from this drug were satisfactory.

A CASE OF SYPHILITIC (CONGENITAL) ULCERATION OF THE LARYNX AND INTERSTITIAL PNEUMONIA.

By George Carpenter, M. D.,
London,

Senior Physician to Out-Patients, Evelina Hospital for Sick Children, London.

MARY E. S., aet. 13 mos., was brought to the out-patient department at the Evelina Hospital on October 29, 1894, by her mother, who stated that she had "bronchitis."

The mother had been delivered of ten children, but five of these were still-born; she had never had any miscarriages. All of the children had thrush, "which passed through them, but did not extend below the buttocks." None of her children suffered from "snuffles"; but the subject of these notes had considerable muco-purulent discharge from the nose, and the mother owned that the child had been troubled with this since she was three months of age, at which time "a rash first broke out round her mouth and then passed to her bottom, but did not extend as low as her knees." She was taken to Guy's Hospital at this time and was given gray powders.

On Examination.—The head was small, measuring 15½ inches in circumference, and the anterior fontanelle widely open. Her mother said she was "very knowing, always laughing and talking in her little way at home." Whilst I was examining her she had an attack of laryngeal spasm. The crowing was not loud and noisy, as with healthy vocal cords, but was dysphonic. Her mother then volunteered the statement that "ever since she had first been taken bad she had crowing on and off." The mouth was extensively scarred at the angles, and the sides of the cheeks and the chin were invaded.

The right upper lobe of the lung was dull to percussion, but little information was obtained from an examination of the lungs, as a laryngeal whistle was audible all over the chest.

There was an eruption on the buttocks and vulva, consisting of papules, varying in size from a pin's head to a small split pea. These had an excoriated look, and were red in color. On the backs of the upper part of the thighs were stains, varying from a pin's head to a pin puncture, and of a dusky hue.

She was treated for syphilis. A few days after her first appearance at the hospital she died somewhat suddenly.

Autopsy.—Larynx. The epiglottis and ary-epiglottic folds were

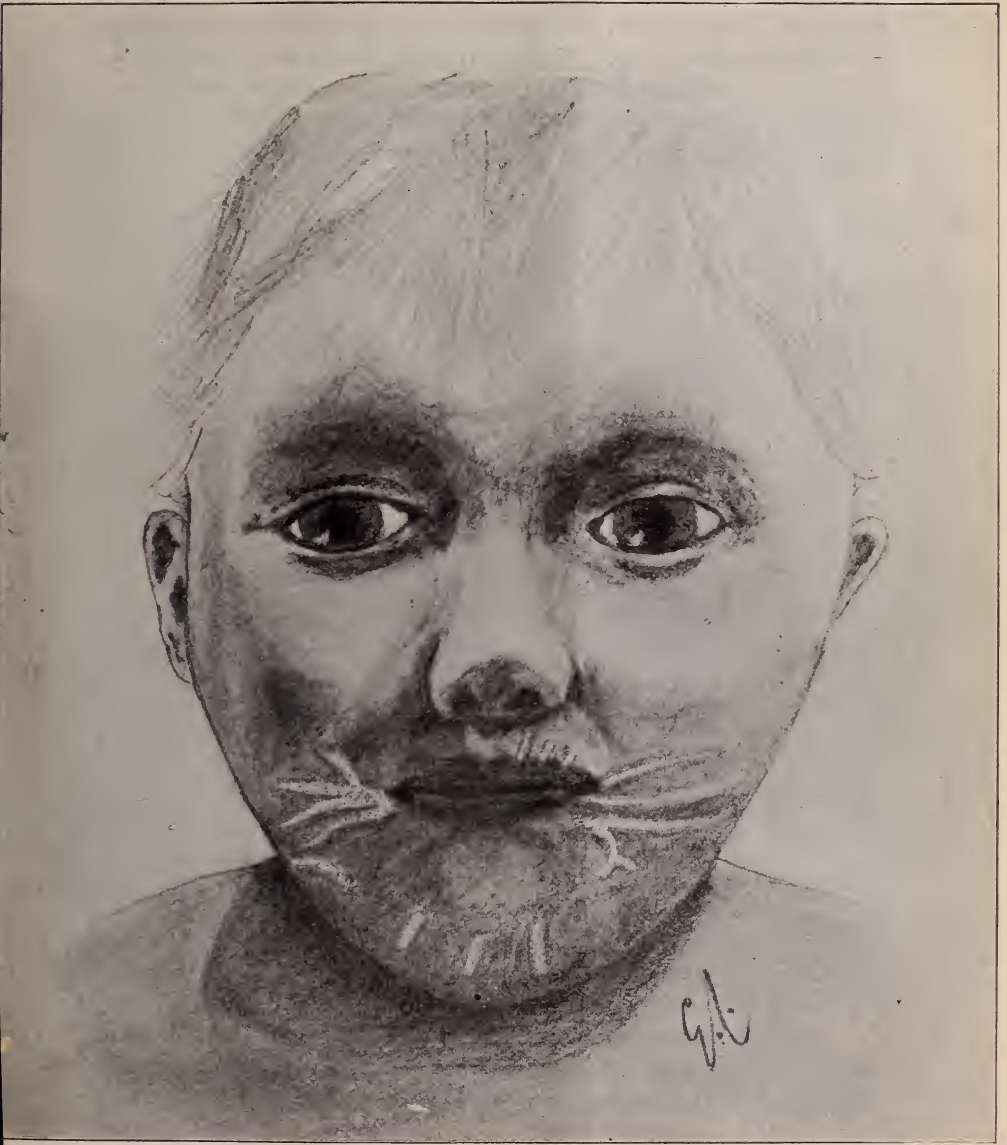

FIG. 1. Scarring of Mouth and Chin. (Congenital Syphilis.) Aet. 13 months.

much swollen. The drawing shows the trachea and larynx opened up in the usual way—the parts have been opened out forcibly.

There was extensive ulceration of both vocal cords, the larger being on the left side, the edges of the ulcers being ragged and their bases rather deep. Both ventricular bands were also ulcerated, the ulceration extending to the ary-epiglottic folds—this was much more marked on the right side than on the left, as is seen in the drawing. The under surface of the epiglottis had a mossy appearance, and when the organ was opened out for the purpose of sketching, deep fissures came in view.

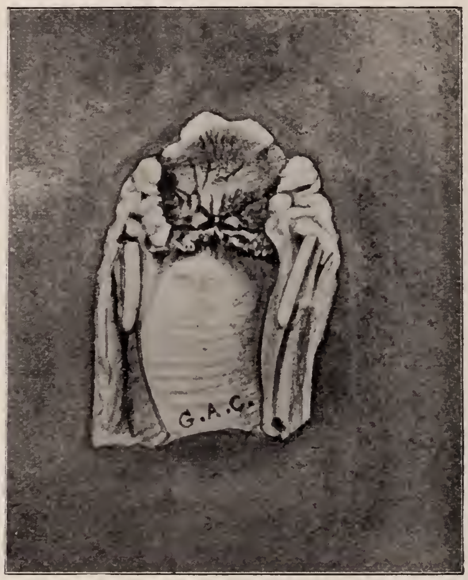

FIG. 2. Syphilitic Ulceration of the Larynx. Aet. 13 months.

Lungs.—Somewhat recent adhesions were found on the right side. The whole of the upper lobe on the right side had a grayish, slightly granular appearance, and was quite solid. Neither air nor fluid could be squeezed from its cut surface, and it could not be readily broken up by the thumb nail. Some delicate strands of fibrous tissue were seen in it. The other lobes were perfectly healthy.

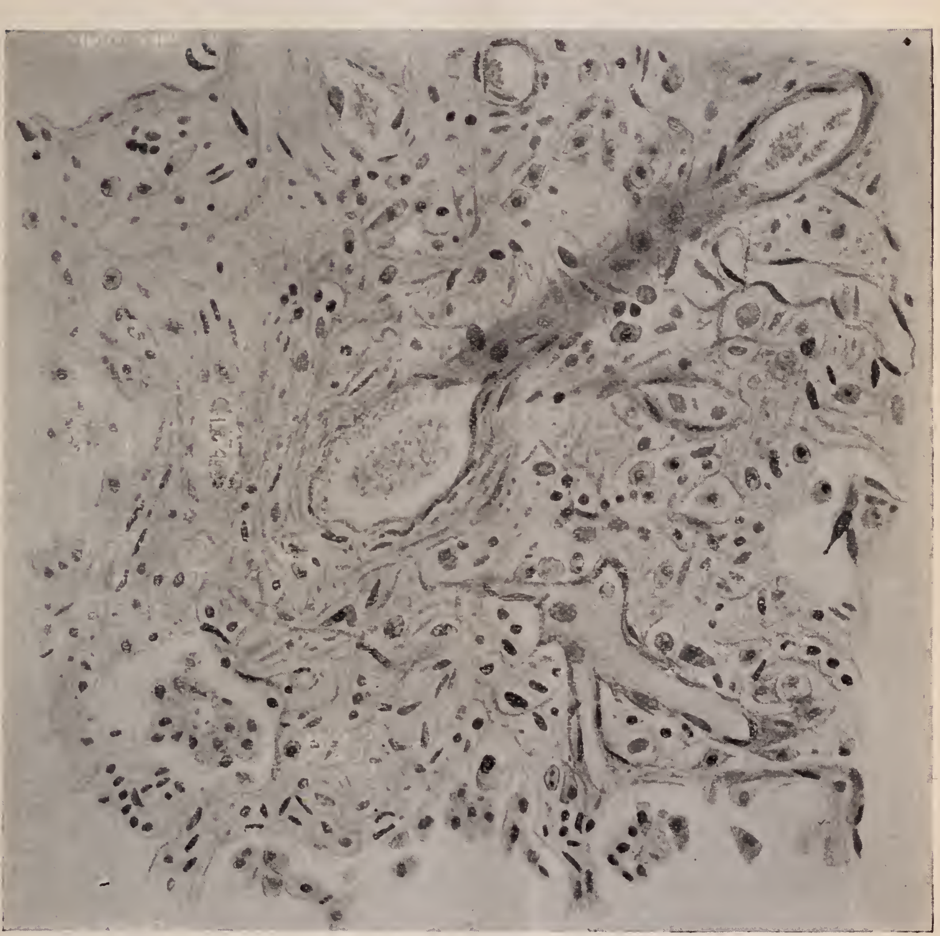

FIG. 3. Interstitial Pneumonia. (Congenital Syphilis.)

A microscopical examination of the consolidated lung revealed the following changes :

There was bronchial catarrh, peribronchial fibro-nuclear thickening, and here and there fibro-nuclear outgrowths invaded the bronchial tubes, with varying impairment of the channel.

The air vesicles were stuffed with catarrhal products, and their walls were mostly thickened. Areas of interstitial pneumonia were found all through the microscopic sections, the fibro-nuclear tissue, which was plentifully supplied with new vessels, invading the air vesicles in all directions. Irregularity in size of the air vesicles was a feature—they were for the most part compressed in varying degrees, and only occasionally a dilated vesicle came in view.

The septa were slightly thickened, as also the pleura, and there was perivascular thickening.

The microscopic drawing here given shows the interstitial changes very clearly.

Intrauterine Crying (Vagitus Uterinus).—W. Brull (*Wien. clin. Wochenscher, 1895, viii, 683*) reports this case : It was a twin birth. After labor pains had lasted two days, the midwife in attendance had frequently introduced her hand into the uterus for the purpose of facilitating the extraction of the twin presenting by the breech. B., who had been summoned for assistance, on entering the room heard a crying which emanated from the uterus of the woman in labor. The crying was distinctly audible at a great distance, even in an adjoining room. The midwife mentioned that this had lasted, with long intervals between, for three hours. Extraction of an asphyxiated, but later resuscitated, infant was performed. The other twin, which was greatly underdeveloped, was dead when extracted. The conditions for the possibility of the vagitus uterinus he declares to be : first, that the placental circulation must have ceased ; second, air must have entered the uterus ; third, the amniotic fluid must have been absent, or so distributed in relation to the mouth and nose as not to interfere with breathing. He furthermore calls attention to the medico-legal aspect of the case.

Editorial.

RECENT PROGRESS IN THE TREATMENT OF WHOOPING-COUGH.

OF all the minor ailments to which children are prone, none is so distressing to experience or so painful to witness as whooping-cough. Every contribution to its therapy, therefore, which is based on considerable experience, is liable to be favorably entertained and given a trial. Yet, year after year, and experiment after experiment, we find ourselves as impotent therapeutically in the presence of the disease, either to stay its progress or cut short its course, as we were a decade or a generation ago. Not long since it was believed and stated by a great many writers that we had found in bromoform the medicament which would rob pertussis of its harassing features and prevent the occurrence of disease to which it predisposes. If we may judge from a retrospect of the literature the promise of its efficaciousness has not been fulfilled, and we are as far to-day from a specific in whooping-cough as we ever were.

The results claimed by some writers for certain drugs in the treatment of this disease are quite remarkable. For instance, FISCHER, employing a method originally suggested by Binz (*Berliner klin, Wochenschr, No. 39, 1895*), has had astonishingly good results from the administration of quinine; results which he believes are not to be obtained by any other plan of therapy. In 27 cases in which it was tried in all except in three its beneficent results, reduction in number of the paroxysms, diminution in intensity of the spasm and the like, were to be seen after the third or fourth day. In one case in which the pertussis was complicated with broncho-pneumonia, administration of quinine was soon followed by a diminution in number of the attacks from 30 to 10 a day, the intensity of the attacks greatly modified and the course of the disease greatly abbreviated. In doses of one and one-half grains for a child a year old and proportionately for children older and younger, the writer thinks we have in quinine the most valuable medicament and one which can be relied upon to influence the disease beneficently.

Evidence which tends to corroborate the claims made for quinine has been furnished by Clemens, who has made extensive use of it during several epidemics of pertussis. Whenever it cannot be administered by the stomach on account of irritability of the latter, or from constant vomiting attendant on the paroxysm of coughing, he administers it, and with equally satisfactory results, per rectum.

The virtues of belladonna to mitigate the severity of pertussis are widely known. ESCHLE (*Therapie der Gegenwart, No. 8, 95*) recommends that it be combined with antipyrin and that twice as much of the latter be given as the former. It is a fact verified by universal experience that children are proportionately tolerant to belladonna as they are antipathous to opium, so that therefore moderately large doses of antipyrin are given. The writer believes that after seven years' experience with infusion of belladonna leaves and antipyrin, he is justified in saying that this form of therapy is the most reliable means at our disposal.

The statement of Celli, that vaccination often cuts short an attack of pertussis, is undoubtedly true in many instances, but the suggestion that it should be employed therapeutically has never been received with much favor in this country. BOLOGNINI has put it to a test, however (*Journ. de Chir. et de Therap. in 1895*), and considers that it is worthy of trial in children that have not been vaccinated. Unless other claims for its recommendation are forthcoming, it is safe to say that it will never get far beyond the confines of him who recommends it.

The number of medicaments, devices and therapeutic make-shifts proposed for any disease is proportionate to the unresponsiveness of it to therapy; so that in incurable disease their name is legion. In almost every case some form of air cure, or water cure, or walking-in the-grass-with-bare-feet-cure plays a conspicuous part. Whooping-cough is no exception to the rule. ULMANN is the latest advocate of the fresh air cure (*Munch. med. Wochenschr, No. 48, 1895*). His experience would seem to warrant a trial of this method of treating whooping-cough, but in private practice it would be impossible to carry it out in this country.

PRACTICAL NOTES.

Therapeutics of infants and children have enjoyed, or suffered from, their fate like "books" and those of adults. They have had their stages between the era of dull and ignorant prescribing and that of impotent and conceited nihilism. But neither a deluge nor an absence of drugs make a physician, when by themselves alone, to the welfare of a single individual or the community. * * * The ailments of children are but rarely complicated, and a single diagnosis tells the whole story. If it be not made, it is perhaps best for the practitioner not to attempt much doctoring and for the patient to be left alone. For, happily, most diseases have a tendency to get well, either completely or partially, and many will run a more favorable course when not meddled with.

This does not mean to say, however, that I discourage treatment even in such ailments as run a typical course extending over a number of days or weeks. On the contrary, I am opposed to the practice—much too common—of those who do not, for instance, wish to interfere with a whooping-cough because it finds its natural termination after several months. This is true, but many of the children find their natural termination also during these months. Every day of whooping-cough is a positive danger. A lobular pneumonia which occurs in the second or third month of the disease, and proves fatal or terminates in phthisis, would have been prevented if the original affection had been removed or relieved by treatment. A physician advising no treatment in such cases as terminate unfavorably in this manner ought to be punished in the state of the future.

Nor do I approve of the practice of "meeting symptoms when they turn up." My responsibility is not lessened by busying myself with subcutaneous injections of brandy when a collapse has set in which I ought to have foreseen and prevented, or by giving digitalis on the fifth or sixth day of a pneumonia, the pulse is flying up to 160 or 200. Anybody can perform that sort of perfunctory expectant treatment, extending from the first call to the writing of a death certificate.—A. JACOBI.

Mastitis in the Newly Born.—The swelling and secretion of the gland may last a week or two when undisturbed. After it has been squeezed out ever so gently, a new secretion will be invited and continue five or six weeks. Then pressure of any kind must be avoided. It is barely possible that it may not be injurious, and that a gentle inunction of warm oil, which is so commonly used, may do no harm. But as a rule every sort of pressure occasions an attack of inflammation and, maybe, suppuration. Though an abscess be ever so small it is sufficient to destroy all or a part of the mamma forever—a serious misfortune in a female. A swelled mamma must be left alone. Applications of cool or warm water, the cloth being well pressed out and covered with oil-silk and cotton, or flannel, or of a mild lead wash, will answer well. Also applications of iodide of potassium dissolved in glycerine, one part of the former in two to five of the latter, are excellent. Extract of belladonna may be added to advantage. When suppuration is unavoidable, the incision must not be delayed. It ought to be made at the greatest possible distance from the nipple, and directed towards it, so as not to cut the main milk ducts.

Indurations remaining behind require frequent and gentle inunctions of an iodoform ointment (iodoform, ℈ii; ol. bergamont, ♏iv; adip. suilli, ʒ vi to x), or iodoform collodion, to be applied with a brush twice every day (iodoform, 1; collodion, 10 to 20), in such a manner that only those scales of the application which are found peeled off from the skin have to be removed before a new layer is applied over the dried-up previous application. A very mild galvanic current of from two to six elements, conducted through the induration by means of soft sponge electrodes moistened with salt water, has rendered me good services in many cases.—A. JACOBI.

Incontinence of Urine.—The great variety of the causes of incontinence of urine requires tact and discrimination in the selection of remedies. General anaemia and muscular debility indicate a diet carefully selected for its nutritiousness and digestibility. * * * Attention must be paid to the capacity of the bladder. * * * The sigmoid flexure and the rectum must be empty at night. * * * Muscular debility of the neck of the bladder requires general and local stimulation. Strychnia (gr. 1-40 to 1-16), suppositories of extract of nux vomica, the fluid or solid extract of ergot or the interrupted electrical current are indicated.

Whenever there is oxalic acid or sugar or an excess of urates and phosphates in the urine, the source of the disturbance must be attended to. Vesical catarrh, nephritis and calculi have their own indications Hyperaesthesia of the body of the bladder requires belladonna or its alkaloid. In many cases a single evening dose of extract of belladonna (gr. ¼ to ¾) or sulphate of atropia (gr. $\frac{1}{100}$ to $\frac{1}{75}$) answers well, sometimes to an unexpected degree. Bromide of potassium (gr. vi to xxv), camphor (gr. ii to v), extract humuli fluidum (♏ iv to x), or the elixir humuli (ʒ i), given at bed-time, answer a similar purpose.

Causes of reflex irritation located in the vagina, penis or rectum require local correction—vaginal catarrh, polypoid excrescences, phimosis, intestinal worms, anal fissure, irritable bladder or urethra, masturbation, etc., etc.—A. JACOBI.

Tubercular Meningitis.—A preventive treatment only may be expected to do good, if anything will. Constipation must be overcome. Eczema and other lesions of the surface should be healed. Their presence is a constant source of danger, both by reason of the opportunities afforded for a direct invasion of microbes, and of the irritation and swelling of lymph bodies. These, when found, must be removed by internal treatment, massage, ointments (green soap, iodide-lanoline mixture), or enucleation. Nasal catarrh should be immediately relieved; its persistence is a cause of "scrofulous glands," and, possibly, of secondary tuberculosis, and also of direct invasion of germs through the patent orifices of the lymph vessels at the base of the cranium and the extra-dural tissue. The best general preventive treatment of infants and children with a predisposition to tubercular meningitis, rendered probable by hereditary taint and by suspicious symptoms, consists in the regulation of the diet and hygiene: animal food mostly, daily cool or cold bathing, with vigorous friction, open windows, exercise, cod liver oil during the cool and cold months, arsenic in regular small doses, and pure guaiacol (or the carbonate of guaiacol) for many months in succession through a course of years.—A. JACOBI.

Society Report.

REPORT OF THE FOURTEENTH CONGRESS FOR INTERNAL MEDICINE, HELD AT WIESBADEN APRIL 8 TO 11, 1896. (*Der Kinderarzt, 1896, vii, 73*).

GREAT interest was manifested in the report, "On the value of medicinal antipyretics," which was read by Prof. Kast (Breslau) and Prof. Binz (Bonn).

Prof. Kast said that the number of antipyretics had increased to about 48-50, and most of them were being used systematically as antipyretics. In answering the question whether the reduction of temperature was beneficial or not, a number of experiments had been made. Walter had found in the Pasteur institute that animals which had been inoculated with pathogenic material, would live longer in the incubator (three days longer if inoculated with the pneumococci) than those which were exposed to the ordinary temperature of the room. Similar results were obtained by Loewi and Richter, who inoculated a number of animals with infectious material, which was 100 times or more stronger than that used on another series. Fliehne also experimented on three different series; one series of animals was placed after inoculation in an ice box, the second in the temperature of the room, and the third in an incubator. Of the three series, the condition of the latter was the best, and the duration of life diminished from the incubator towards the ice box. Somewhat similar were the results of Muller (Breslau) in observing the energy of growth in the bacilli of typhoid fever. This experimenter discovered that the duration of regeneration of these bacilli at 37.5° C to 38.1° C was 32 minutes, at 38.1° to 39.5° C, 37½ minutes. Their virulency diminished according to the rise in temperature. Kast has personally experimented on infected animals, and found that those protected with immunizing serum were benefited by its action, particularly when overheated, but he had not made any studies on the chemical action of the antitoxins during a raised bodily temperature. Phagocytosis was not influenced by a high temperature. The interchange of matter was influenced by overheating. The alkalinity of blood decreases during fever, and remains diminished even when the bodily temperature has been reduced. Litten has claimed that a parenchymatous degeneration of the organs was produced by fever. It is true that a fatty degeneration is induced by overheating, but a longer time is necessary for its accomplishment than Litten has found. As a therapeutic measure, K. would very much recommend the cooling bath. He would, however, in very sensitive people, occasionally substitute for the bath medium doses of quinine. All other antipyretics only have a symptomatic nerve effect. Prof. Binz spoke about quinine, which to him seemed the most prominent antipyretic. Thirty years ago it was believed that its action was on the nervous system, but it has been proved that quinine had (1) a marked poisoning influence on the amœbae, and its action was greater on these than upon the cell element of the human body. (2) The antifebric power of quinine is not dependent on the central nervous system and the circulation, hence the assumption was that the cause of malaria was a lower organism, which proposition was brilliantly vindicated. Upon this disease breeder, the malaria-plasmodium, the action of quinine is concentrated, and by destroying this organism it diminishes the enlarged spleen, which is characteristic of malaria.

To determine the question, how quinine could reduce fever in other diseases, there have been various experiments made, for example: those of Gurgensen and Holzaeger. The result was that quinine was believed to act antipyretically by reducing the number and the work of the leucocytes, whose appearance always induce a heightening of the exchange of matter. According to Kobert, quinine also reduces the W. and S. separation in the urine, both during health and in fever. Quinine acts as an antipyretic by its influence on cells, and acts as well on the leucocytes as on the organic cells, reducing their ability to absorb oxygen and using this for the purpose of raising the temperature. Quinine is a special and general antipyretic. The author reminds us that he had introduced the treatment of typhoid fever by baths, quinine and alcohol, in the seventies.

(2) Salicylic acid favors an increase of the blood temperature, in the vapor bath both an increase of uric acid, and an increase in the number of leucocytes.

(3) Antipyrin (also antifebrin and phenacetin) produce their action through the brain. In insolation (Aronsohn and Sachs) quinine has no power, salicylic acid very little, while antipyrin promptly reduces the temperature. It favors an increase of uric acid, an equalization of the urates, an increase of heat production in the body, and an increase of heat rays.

(4) Tannin, which is greatly opposed to bacteria, probably has the same action as quinine.

(5) Alcohol, where it influences temperature, does so only by decreasing it. Experiments on dogs, and its effects in puerperal cases, gave the best results ; but how is a reduction of temperature following large doses of alcohol produced? According to Binz's experiments (1870) the nervous system may be excluded. The heart is stimulated by alcohol, which enables it to force the blood current to the surface of the body, where it comes in contact with the external temperature, and is thus cooled off. To this is added the antiseptic quality of the alcohol, which is antagonistic to the poison of the bacteria of putrefaction. Through its chemical action, also, a post-mortem rise of temperature does not take place. Furthermore the diuretic effect of alcohol is to be considered, which is particularly of use in the rapid elimination of toxines, in the absence of diuresis in fevers. The ingestion of water is also necessary to flush the kidneys, whose ducts have been opened by the alcohol.

Leubusher (Jena) read a paper, entitled: *Diseases of the circulatory apparatus in conjunction with diseases of the nervous system in childhood.*

The author had been struck by the great number of cases showing disturbances of the heart and the circulatory system in idiotic children, of which he had found very little in literature. His observations are of two kinds.

First, he had under treatment two cases of infantile cerebral paralysis, with hypertrophy of the heart. It might be surmised that the paralysis was secondary, due to a primary heart disease, but in both cases the previous history did not reveal a primary disease of that organ, and the author is therefore bound to assume that the heart disease was a secondary condition, following the brain lesion.

In the other cases, the original disease was a diffuse brain trouble. Most of them presented vaso-motor disturbances of the hands and feet. These members were always cold, even in the warmest seasons ; frequently decided disturbance of the heart's action, and also marked change in the area of heart dullness was noticeable. With a pulse of 130-140 to the minute, arhythmia was often present, which was similar to that found in neurasthenia ; each change in the heart's action was distributed over 8-10 pulse-beats. These irregularities did not, however, run parallel with the physical condition. The amount of the hypertrophy of the heart was usually only small, but distinct, and the heart sounds generally clear. As a reason for these hypertrophies we may look to the vaso-motor disturbances, as they were a hindrance to the circulation, and affected particularly the left ventricle. In weak-minded children there may be formed quite early an arterio-sclerosis. Many of these simpletons were the victims of great polydipsia, and the greatly increased imbibition of fluid could not be without some influence on the vessels. Another cause for heart hypertrophy in these cases was masturbation.

Intubation in Diphtheria Patients Before and After the Antitoxin Treatment.—J. BOKAI (*Centralbl. f. d. g. Therapie, 1899, xiv, 244*) from August, 1890, to July 1, 1895, performed 763 intubations, of which 268 recovered. Among these were 90 intubation cases, of which 45 were treated by antitoxin.

Concerning the duration of intubation, the following statistics are gathered by different reporters: Mount Bleyer (in 189 recoveries) extubated definitely on the fifth day in 79.3 per cent. G. Beer (in 30 recoveries) on the fifth day in only 64.5 per cent. Prof. V. Ranke on the eighth day in 73.5 per cent. Before the introduction of antitoxin B. had in 673 intubations 223 recoveries (one-third), and after deducting eight cases, which had to be tracheotomized subsequently, 215 were left, of which 82.3 per cent. were extubated at the end of the fourth day, 62.7 per cent. on the third day, and 19.5 per cent. between the third and fourth day. The average of all his intubation cases was 79 hours.

In the 49 recoveries during the serum period, the extubation was done in 77.26 per cent. at the end of the second, and in 86.35 per cent. at the end of the eighth day, in 90.89 per cent. at the end of the fourth, and in 93.16 per cent. at the end of the fifth day. A table of comparison, furthermore, teaches us that after the first twenty-four hours 5.63 per cent. more cases could be extubated, and on the second day 19.86 per cent. more than before the introduction of the serum treatment, and that also the average duration of intubation was eighteen hours less in the cases inoculated with the anti-diphtheritic serum.

In his tracheotomy cases during the serum period, he was able to remove the canula during the first ten days in 80 per cent. of all his cases, and he expresses the opinion that one is not warranted to follow the oft-repeated rule that a secondary tracheotomy must be performed when a final extubation cannot be done at the end of the fifth day, if at that time no sloughing can be demonstrated.

Abstracts.

THE CLINICAL DIAGNOSIS OF DIPHTHERIA.

P. Deucher (*Correspondenzbl. f. Schw-aertzti*, *1896*, *xxv*, *481*). In a preface Dr. Sahli gives it as his opinion that a well-schooled physician is able in most cases to diagnose, even without a bacteriological examination, by simply observing the clinical symptoms, to distinguish true diphtheria from all similar affections, and that the diagnosis of diphtheria is, if anything, made too infrequently rather than too often.

The table compiled by D., from which his deductions are drawn, contains 146 cases. The figures in parenthesis indicating: those to the left the number of cases, those to the right the positive finding of Loeffler's bacillus:

A—PHARYNX.

I. Diphtheria with typical pseudo-membranes (75—75).
II. Anginas without the typical diphtheria deposit.
  (1) Punctiform diphtheria of tonsils.
    (*a*) without stenosis of larynx (4—4).
    (*b*) with stenosis of larynx (11—11).
  (2) Angina lacunaris (6—0).
  (3) So-called streptococcus pseudo-diphtheria (1—0).
  (4) Angina catarrhalis.
    (*a*) without stenosis of larynx (5—3).
    (*b*) with stenosis of larynx (26—16).
  (5) Angina necrotica, etc. (3—1).
III. Normal tonsils (15—8).

B—LARYNX AND TRACHEA.

I. Croup with demonstrable presence of membrane (77—76).
II. Croup without demonstrable presence of membrane (27—7).

From an analysis of these cases, Deucher comes to the following conclusions: True clinical diphtheria of the pharynx with presence of typical pseudo-membrane, particularly if scarlet fever cases are excluded, agrees nearly always with the etiological conception of Loeffler's diphtheria. The punctiform diphtheria shows the same coincidence with the bacteriological finding as true diphtheria. Clinically this form is only to be confounded with angina lacunaris on superficial observation, and is sharply defined from the latter;

the small specks or points being situated on the elevated surface of the tonsil, not in the lacunae; also in that these points cannot be expressed, but must be torn off, as little bits of the mucous membrane being only removable with the latter itself. The angina lacunaris usually contains no diphtheria bacilli, and can be further distinguished from punctiform diphtheria by the test above referred to. The so-called streptococcus pseudo-diphtheria can also be differentiated clinically from true diphtheria, first, by the yellowish color of the deposit; secondly, by the property it has of dissolving and crumbling, while the diphtheritic pseudo-membrane remains for a long time of a tough consistency.

This streptococcus angina with deposits is, on account of its rare appearance, except as the so-called diphtheria of scarlet fever, only of subordinate interest. The separation of a scarlatinal pharynx necrosis from true diphtheria is only possible by a bacteriological examination.

The presence of diphtheria bacilli in a harmless appearing angina catarrhalis, or, indeed, on normal tonsils, is not excluded. The previous history, presence of diphtheria or croup in the neighborhood, and presence of stenosis of the larynx, must be taken into consideration. The appearance of true pseudo-membrane in the larynx and trachea is usually accompanied by the Loeffler diphtheria bacillus. In true pseudo-membranous croup of the larynx the presence of diphtheria bacilli on the tonsils can often be demonstrated, though these may not be diseased or only slightly so. Even when neither in the pharynx nor larynx pseudo-membrane can be proven to be present; pseudo-membranous croup can be discriminated from pseudo-croup by means of the previous history and the course of the disease. In the clinically diagnosticated pseudo-croup there are usually no Loeffler bacilli present. Negative results of a bacteriological investigation do not always warrant the positive exclusion of true diphtheria. Diphtheria bacilli may be demonstrated in two-thirds of the cases, particularly when present on the tonsils, by the dry preparation.

TREATMENT OF RHINITIS IN INFANTS.

VOHSEN (*Memorabilien, 1896, xl, 35*) says that nasal catarrh in the infant is a serious condition. There are two things to be borne in mind in its treatment—the removal of the secretion and the therapeutic indication for the nasal mucous membrane. It is necessary for the physician to determine by careful inspection whether the catarrh is unilateral or bilateral. If the first is the case, a careful examination of the inside of the nasal cavity must be made, which can be done where a rhinoscopic examination is not feasible, by passing a very thin oiled probe, wrapped with cotton (after having previously cocainized the nasal membrane with a 1 per cent. solution of cocain) carefully along the nasal cavity in a horizontal direction, to prove the absence of a foreign body, or some other obstruction. It is well to measure the depth to which the probe will enter in both nostrils, and should this reveal a marked difference in the two, it is better for the non-expert to meddle no further with it. In such cases there are usually found foreign bodies, tumors, congenital bony closures of the choanae or artresia of the passages, which can only be diagnosed and operated upon by the specialist. Then follow the examination of mouth and pharynx. Abnormally small and high jaw-bones are often found in infants, and point to a narrow nasal skeleton, which needs very careful treatment. Enlarged tonsils, less frequently a voluminous tongue, may be the cause of obstruction to nasal breathing. The pharyngeal tonsil is seldom found hypertrophied in infants at the breast. This will hardly be possible to determine by an examination with the finger, owing to the narrowness of the passages, aside from its being an uncertain and rough method.

A safer and very satisfactory way of gaining knowledge of any obstruction in the post-nasal space is the following: A piece of rubber tubing of the proper size is introduced into the entrance to one nostril, without closing the other one. The tube should be of a size to fill the nasal opening. Now blow carefully into the tube, but desist if any resistance is felt to the entrance of air. In that case apply a piece of cotton soaked in a 1 per cent. solution of cocain to the bottom of the nasal cavity, and try once more to force air into it. Should this be impossible even now, with moderate force, the probability is that an obstruction is present in some part of the nasal passage, whose removal must be effected by surgical means. Should you, however, be able to force air through, the mucus present will generally be forced out of the opposite nasal orifice, during the child's efforts at resistance and its crying, and a thorough cleansing is thus obtained. Now you may apply a tampon of cotton soaked in a 3 per cent. solution of boro-glycerin to the presenting clean membrane. Where there is tendency to an eczema at the nasal entrance, this must be combated early by applications of boro-lanolin after each cleansing. This form of treatment has the advantage that it can be carried out by the parents, which is a necessity where success is to be attained. The nose should be cleaned out in this manner frequently during the day, particularly before each feeding. The seeming probability of infection of the middle ear by this method is very slight. The Eustachian opening in the infant lies at about the level of the hard palate, and probably is closed during the elevation of the soft palate. Only in later years it is found higher up.

CONCERNING INTESTINAL ANTISEPSIS.

H. STEIN (Vienna) (*Centralb. f. d. g. Therapie, 1896, xiv, 321*) says that the presence of an immense number of microbes in the normal intestine has been for a long time an incentive for studying their significance in relation to the digestion and their bearing on diseases of the intestine. Bacterial processes in the intestinal canal are nearly universally conceded now to be absolutely essential to normal digestion. An intestinal antisepsis is, therefore, only to be directed against either a pathological numerical increase—that is, an abnormal and dangerous evolution of otherwise harmless microbes, or against specifically dangerous species of the same.

Without entering into bacteriological details, the following microbes have been demonstrated at present in the intestinal tract. The author enumerates here, at length, the various bacilli and the conditions in which they thrive, and says the following about treatment :

The means which can be employed to rid the intestinal tract of these diseases breeding immigrants are :

1. Their removal by means of purgatives or enemata.
2. The destroying or cutting off the development of these carriers of infection.
3. Rendering innocuous the toxic substances formed by them.

The influence exerted on the number of remaining intestinal microbes after the use of purgatives is astonishingly great.

If there are not unsurmountable contra-indications to the use of energetic or mild purgatives, the disinfection by way of the upper intestinal tract should be begun with the administration of strong purgatives. If the infection is situated in the lower intestine, repeated enemata are then, of course, the proper treatment.

A medicine possessing both a disinfecting and purgative quality is to be preferred to others. Therefore calomel has up the present taken precedence of all others.

Bouchard has, in the following sentences, indicated the qualities which an ideal intestinal antiseptic should possess :

1. It should be somewhat difficult of solution, so as to act throughout the whole extent of the intestinal canal.

2. It should be in the form of an exceedingly fine powder, that it may come in contact with the whole canal and incorporate itself with the contents of the same.

3. It should be administered in small but frequently repeated doses, so that it may, in spite of the peristaltic action of the bowel, be present in sufficient quantity in every part.

From the fact that the contents of the bowel in the adult are 5-6 kgr., the remedy must be of such a nature that large quantities of it may be introduced without jeopardizing life. There are a number of drugs of this kind on hand. Amongst the easily soluble disinfectants in proper cases, there are the organic and inorganic acids, for example, muriatic acid, lactic acid, benzoic acid, then corrosive sublimate, and other metallic salts. Phenol, resorcin, chloroform water, etc. Amongst the more difficultly soluble substances we have calomel, iodoform, naphthalin, A and B naphtol, etc. Of substances which become decomposed only after entering the intestine, there are bismuth salicyl, salol, betol, tri-bromphenol and others. There are two other circumstances which have a bearing on the development of intestinal bacteria, and which may be taken advantage of for therapeutic purposes. These are the chemical reaction of the feces, and their consistency. In an acid and relatively solid medium, the power of development of these micro-organisms is considerably diminished. Thickening the consistency of the feces by the administration of opium, therefore, may produce a notable decrease of bacteria, in comparison with their number in liquid stools.

The success of an antiseptic treatment of typhoid fever is at times really remarkable. To this disease calomel seems particularly well adapted, and if given in the very early stage in doses of 0.4 to 0.6 grm. a day, divided in ten to twelve doses, it at times seems to have an abortive effect on the disease, changing its whole course to an extraordinary mild one.

Altogether unsatisfactory, however, are the results of treating cholera by internal antiseptic measures up to the present time. Bouchard's successes with iodoform (gr. i) and naphthalin (gr. v, pro die). as well as those of others with salol and allied remedies, have not been sustained by later observers. More satisfactory results were obtained by antiseptic treatment of abnormal fermentation of the contents of the intestines, which leads to an increased formation of gas or acid, and through the latter to increased peristalsis and diarrheal discharges. It should not be forgotten, however, that in using such measures it is absolutely essential to remove first the noxious products of fermentation and its agents by purgatives (salines, calomel or castor oil), at the same time regulating the diet according to the cause of the fermentation, whether dependent on the albuminates or the carbohydrates, and restricting nourishment to a minimum.

In meteorismus, due to abnormal fermentation, one must bear in mind to cut off all food which is apt to ferment, never neglecting the previous thorough evacuation of the sour contents of the gut and the administration of anti-fermentative drugs. For this purpose the well-known carminatives, as kummel, peppermint, cinnamon, anisseed, etc., are useful. In a large number of cases of intestinal catarrhs bacterial influence plays a causative role, for in part chemical irritation is produced by the condition of vegetation of the bacteria. Stale meat, bad fish and vegetables, or rotten fruit, may be the initial cause of the catarrh. In cases of marked infectious intestinal catarrhs, the toxines generated by the microbes are the leading causes. To this class belong, aside from the infectious febrile duodenal catarrh (Icterus), also some intestinal diseases, which are similar to typhoid fever, and particularly the accompanying diseases of the intestine during general systemic infection.

In cases of chronic bowel diseases those remedies are applicable, which can, through their insolubility, be introduced in large quantities into the gut, without giving rise to poisonous symptoms, such as combinations of bismuth salts, tannic acid preparations, and drugs like rathania, colombo, coto, etc., wherein the anti-putrid properties of tannic acid, and such like ingredients, will lessen fermentation and disintegration.

Much less effective, and confined to narrower boundaries, is the antiseptic treatment in diphtheritic and croupous diseases of the intestines.

RESEARCHES ON THE SEPTIC-PYAEMIC INFECTION OF THE UMBILICAL CORD IN THE NEW-BORN AND ITS PROPHYLAXIS.

M. Cohn (*Centralbl. f. d. g. Theurapie, 1896, xiv, 307*) reports the following cases :

Case 1. Boy, aged 14 days. Labor and childbed normal ; on the second day of birth the umbilical cord was retied by the midwife ; it came away on the fourth day. On the fifth day there appeared a reddening and swelling of the left hand, which rapidly spread to the forearm, with fever. On admission to the clinic there was found some slight pus formation on the navel, and a fluctuating abscess on the left forearm, with a surrounding deep infiltration.

Healing took place after two months. When the child was 49 days old he had an attack of severe intestinal colic, with grass-colored, slimy stools, and fever; the navel extruded, became painful, and then discharged pus. Phlegmonous abscesses appeared on the navel, which soon healed through phlebitic suppuration. A sound could now be passed for about 4 cm. in an upward direction under the abdominal parietes.

CASE 2. Male child, 15 days old Labor and childbed uneventful. The umbilical cord dropped off on the fifth day, leaving behind a stump of about 2 cm., which had to be retied a number of times. On the fifteenth day of birth there appeared swellings on the left maleolus and leg; on the seventeenth day they were noticed on the buttocks, scrotum and foreskin. The abscess on the leg was opened; next day reddening and swelling of the thigh, body and upper extremities (phlegmonous erysipelas), together with symptoms of acute peritonitis appeared, which led to death. Autopsy revealed a seropurulent peritonitis, originating in an umbilical phlebitis. Streptococcus infection was the cause of sepsis. C., in view of these cases, would ask the question: What form of treatment in the toilet of the umbilical cord should be adopted? It seemed to him that we should strive to exclude every form of microbes from the wound, and try to prevent putrefaction of the cord (autoinfection). It should, therefore, be impressed on the midwife to employ the most rigid asepsis, as regards the umbilical cord. The prevention of mechanical injuries through lacerating or straining it should be insisted on, as also its becoming soiled from the lochial discharge. The child should be powdered before attending the mother, and, where puerperal disease is present, it should be isolated. To employ antiseptic measures before the cord has fallen off is superfluous, nay, it may be mischievous, on account of the danger of resorbtion. The author calls attention to the following points, in order to prevent possible putrefaction of the cord:

1. The umbilical cord should be cut off as short as possible, leaving a stump of about 6-8 cm., and where the cord can be tied lower down even of 1 cm.

2. To ward off all pathogenic microbes by the use of an occlusion bandage (Dohrn) and delaying the bath until the child is seven days old. C. emphasizes the difficulty of applying and maintaining such a dressing in place in general practice, and points out the danger of an ill-fitting bandage.

3. To hasten the mummification of the cord by using loose dressings, which permit the warm air of the room to circulate freely,

and not to use impermeable dressings, which necessitates their change whenever they have been casually wetted, and that the stump of the cord be not, as is occasionally the fashion, enveloped in an oiled linen rag.

Experiments with different dusting powders have led to the conclusion that sugar is directly antagonistic to the object in view ; that alum, though hardening the outer surface, has no power to influence exsiccation of the deeper layers, and therefore does not hasten mummification ; that tannic acid, both in the form of powder or in concentrated solution, is likewise inefficient. Neither is C. convinced of the favorable influence of painting the stump with a solution of nitrate of silver of the strength of 20 per cent., nor of the use of borated starch, dermatol, salicylated starch or wood charcoal. The value of these powders can only lie in their power of acting to a certain point, as antiseptic coverings in the early stages of decomposition.

Lastly, C. insists upon postponing the full bath of the new born until the cord has dropped off, or even until after the navel has healed, for the reason that the daily bath interferes with the drying process and may possibly become the carrier of pathogenic microbes. At the first immersion of the child in the bath, which is unavoidable, he recommends the addition of some permanganate of potassium.

FOREIGN BODY—PLUM SEED—IN THE ŒSOPHAGUS: PERFORATION INTO PLEURAL CAVITY.

C. W. Richardson (*Nat. Med. Rev., 1896, vi, 17*) reported the following case :

The child was four years old. Eight days before the patient was brought under observation it was said to have swallowed a plum seed. The child was well nourished, and active for its age. The mother states that while feeding her child with preserved plums she observed that there was considerable difficulty and then inability to swallow the food.

On succeeding days the inability to take food was followed by rapid emaciation, great restlessness and indications of febrile reaction. The desire to take food and drink was constant, and all efforts on the part of the little one were in vain. Food was immediately ejected and liquids returned through the nasal passages.

It was emaciated, showing marked evidence of a septic condition. The examination of nose, pharynx and larynx gave negative result with regard to the possible location of a foreign body. It was interesting to note the little one's effort to aid in every way in these examinations. The inspection of the pharynx and larynx was rendered somewhat difficult on account of the great amount of pus that was constantly welling up apparently from the œsophagus. When the child was given water to drink it was interesting to note that it was immediately regurgitated through the nostrils; the child continuing to drink with the stream of pus and water returning into the glass from which it was drinking. The column of water evidently passed onward to the seat of obstruction and then returned up the pharynx and through the nasal chambers. It now became evident that the seat of obstruction was high up in the œsophagus. At the first attempt to pass a small sound, after passing about three inches below the cricoid cartilage, the sound was firmly arrested. The breath had the sweet alcoholic odor of sepsis.

The next day the sounds were passed without difficulty and without meeting any obstruction; nevertheless the obstruction to food and drink was as great as ever. On account of the possible location of the foreign body, of the inability at this second examination to locate it, and from the desperate condition of the child, it was decided that endoœsophageal or external operations were not to be considered. The child died early Tuesday morning.

Postmortem.—Rigor mortis was moderate and the body emaciated. The thorax was opened in the usual manner. Left side of thorax was first exposed. Left pleura, lung, pericardium and heart were normal. Right pleura discolored and filled with pus. Right lung collapsed. On exposing œsophagus it was found to be intact throughout its whole course. It was then divided at the diaphragm and dissected away. On raising the tissue up, when between about the third and fourth dorsal vertebræ, the seed dropped into the right thoracic cavity. It was not possible afterwards to locate exactly through which of two rents in the œsophagus the foreign body came through. It is quite evident that the irritation of the seed set up an inflammation of the œsophageal wall which terminated in the formation of an abscess which ruptured into the pleural cavity.

EXPERIENCE IN THE CURE OF TUBERCULAR PERITONITIS BY OPERATION.

J. Israel (*Centralbl. f. d. g. Therapie, 1896, xiv, 243*) reported four cases of cure by operative measures of tubercular peritonitis, three in children of the ages of 4 to 7 years, and one in a girl aged 20 years. In the case of the children the diagnosis had been made before the operation. They were all operated relatively early in the disease, at two weeks, at one month and at three and a half months from the first appearance of the illness. In all three cases was found a very disseminated eruption of nodules, involving all parts of the peritoneum, with only a small amount of fluid effusion. In every case 10-30 grm. of iodoform in oil (10 per cent.) was poured into the peritoneal cavity before closing it.

1. In a boy four years of age was found at the laparotomy, an oedematous condition of the muscles of the abdomen from the umbilicus downward; the peritoneum was thickened and sowed over with miliary tubercles, presenting a picture of intense peritoneal tuberculosis. An intestinal fistula remained after the operation, which however closed in a few months. Increase in weight 7½ pounds. The case was under observation for 16½ months subsequently.

2. A boy of six years of age was operated on three and one-half months from the first appearance of symptoms. Very high fever was present before operation. The mesenteric glands and the intestinal loops were covered with nodules, some of them the size of a cherry pit. Improvement after 36 days. A second laparotomy was done on account of a suspicion of tuberculosis, in which it was ascertained that all of the tubercles had vanished without leaving a mark. Recovery. Under observation for 17 months.

3. A seven year old boy. Operation three to four weeks after beginning of trouble. A very extensive tubercular peritonitis was discovered. Recovery; though in this patient the lungs were also affected.

In the case of the girl, 20 years of age, there was found, along with the tubercular peritonitis, a tuberculous swelling of the size of an apple, situated in the ascending colon. An anastomosis was made between the ileum and colon, followed by the pouring in of 40 grm. of a solution of iodoform in oil (10 per cent.). Recovery. The size of the tumor diminished to that of a walnut. Observation was continued for 7 months after the operation.

THE STUDY OF CEREBRAL PNEUMONIAS IN CHILDHOOD.

Von Holdheim (*Deutche med. Wochenschr., 1896, xxii, 85*). There is a group of acute fibrinous pneumonias of childhood, which are ushered in by severe brain symptoms (restlessness, coma, delirium, cephalagia and vomiting), presenting during the first days the picture of an acute meningitis. Rilliet and Barthez describe a pneumonie cerebrale; Ziemsen, Steiner, Jurgensen, Thomas, Henoch and Gerhard agree with them. These intense nervous symptoms are attributed by these authors partially to the high fever, and partially to a peculiar susceptibility of the individual to nervous excitation. The changes in the lungs are often not demonstrable until after the fourth or fifth day. Even the most pronounced changes in the lung tissue frequently are obscured by the nervous symptoms. Henoch believes that many so-called recoveries from meningitis in childhood are due to a mistaken diagnosis, the cases having been fibrinous pneumonias with severe cerebral symptoms. As a differential point he mentions that in a true meningitis the cerebral symptoms are not only present in the initial stage, but continue more or less unabated to the day of death. The author describes five cases of cerebral pneumonias, which appeared in an epidemic form, which were, with one exception, brought to the Krankenhaus Friedrichshain from the same district of Berlin. In one of these cases there was no positive diagnosis possible during the first six days. Abnormal temperatures, facial expression, coma, delirium, grinding of teeth, all pointed towards miningitis, until on falling of the temperature the lung symptoms came to the fore, and the diagnosis of a cerebral pneumonia was assured. The site of infiltration in all of the five cases was with preference in the right lung. Pneumonias of the apex, however, usually produce severe cerebral disturbances (Thomas, Jurgensen).

The treatment pursued was: Sherry, daily, one or two baths of the temperature of 35-36° C., with cold douches (for reducing the temperature and stimulating the nervous system); by these measures a visible good result was at once accomplished.

CONGENITAL DOUBLE PENIS.

H. KUTTNER (*Beitraege z. klin. Chirg. 1896, xv, 364*) had knowledge of only one unquestionable case of double penis up to this time, namely, the one described by Acton and Velpeau. This reported case, however, has one defect; it gave only the description of the external appearance of this anomaly in the living subject, and there could only be surmises as to the important question, whether there was present also a duplicate bladder, and what position the urethrae occupied towards each other and the bladder. Of much greater interest, therefore, is the description given by Kuttner of the anatomical preparation of a double penis in a newly-born child. The duplication involved the external sexual organs in all their parts, while all the internal urinary and sexual organs were developed normally.

PEDIATRICS

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Original Articles.

AUSTRALIAN ENTERICA.

By Angel Money, M.D., F.R.C.P., Lond.,
Sydney, N. S. W.

A RECENT epidemic, during which at least fifty cases of enterica have passed—happily without any death—through the wards of the Hospital for Sick Children, Sydney, N. S. W., affords an opportunity of examining the assertion that Australian enterica is a very different disease from the European variety. One item of difference may at least be conceded: that diarrhœa is seldom a symptom of any severity. But I am far from thinking that there is such a very marked contrast between the Colonial and the European fevers. So far as brain symptoms go, in respect of the temperature chart, the state of the tongue, spleen, lungs and heart, my observations have not detected any extraordinary contrast. Even with regard to the state of the bowels my experience in Sydney affords at least three cases in which diarrhœa was a pronounced symptom, lasting more than a week and requiring energetic treatment; in two of these an autopsy proved conclusively the correctness of the diagnosis; and in both these cases the large bowel was abundantly affected with ulcers; which is interesting because opposed to the view that constipation may be an expression of the presence of ulceration in the large bowel. Dr. Scot-Skirving, in the *Australasian Medical Gazette*, states, "One of the peculiarities of enteric fever in Australia is the absence of the looseness of the bowel, so common in Europe;" surely too sweeping a statement. Certainly in the old country inaction of bowel throughout the greater part of the illness is of very frequent occurrence. Further, the percentage of cases of European enterica exhibiting excessive action is, according to some statistics, not quite so great as the percentage presenting constipation. The conclusion at which I have arrived is, that though there may be minor differences between the bulk of Australian and the majority of European cases, these differences are rather of degree than of kind, and possibly the degree of severity of the fever may account for the most noticeable of them.

Tympanites was not a very marked symptom in the majority of cases of enterica in the Hospital for Sick Children; in only three cases in which it was present in great degree there was extensive respiratory trouble; the breathing being very frequent; the lips decidedly blue; and much bronchitic râle with some hypostatic congestion being present. Two of these three cases had a most remarkably glazed tongue, which persisted for more than a week after the temperature had become normal; in both, also, the degree of anemia was uncommon. In all three cases constipation was conspicuous throughout the febrile process, and was a very troublesome symptom during convalescence. The proposition has been suggested to me by the cases observed as to whether there is not some relationship between special nervous symptoms and constipation. Reference is made to an exceedingly high temperature occurring as an eventful episode in the midst of considerable pyrexia; to a fine tremor; and to the occurrence of a combination of symtoms which may fairly be described as *pseudo-meningitis*. The hyperpyrexia occurred in three cases; in each the temperature rose to above 106°, and required the free use of the cold bath to repress it; this tendency did not last more than three days; it occurred in all three cases during the third period of the fever; in only one was there a recurrence of hyperpyrexia; the ages of the three cases were from five to nine years. The fine tremor—like that due to mercury—occurred in a female child aged five years; it was bilaterally symmetrical in the hands and face, something very different to the subsultus tendinum of the typhoid state; the child was very ill with very dry tongue; semistupor and constipation for the most part; though for a few days diarrhœa had to be controlled by medicaments. In several cases a marked tache cerebrale was noted. In the child which had the tremor an erythema, affecting the forearms, front and back, lasting for three days, was observed three times; once pending a relapse of the fever, and twice subsequently during convalescence. In all cases the knee jerk appeared to be exaggerated; in none was it lost.

A PECULIARITY IN THE SHAPE OF THE HAND IN IDIOTS OF THE "MONGOL" TYPE.

By T. Telford Smith, M.A., M.D.,
Medical Superintendent, Royal Albert Asylum, Lancaster.

IDIOTS of the Mongol type are so called from their remarkable facial resemblance to the Mongol branch of the human family, a resemblance pointed out by Dr. Langdon-Down in 1866.

They form a well marked and characteristic group with many points of similarity both in physical constitution and appearance, as well as in mental capacity and disposition. In fact, as Dr. Langdon-Down says, "so marked is this that, when placed side by side, it is difficult to believe that the specimens compared are not children of the same parents."*

Their condition is invariably congenital.

Numerically they form a group which Dr. Shuttleworth estimates at about five per cent. of mentally-defective children.†

The following brief description sums up the most constant of the physical and mental peculiarities which are found in cases of this type:

They are undersized in stature. The face is broad, flat, and round, the eyes being as a rule obliquely placed, with a narrow palpebral fissure; the width between the internal canthi is generally greater than normal, and an epicanthic fold is often present. Tarsal ophthalmia is very common. The nose is small and rather flattened. The ears are small and badly shaped, the lobules are adherent.

The mouth is generally open, and the lips are sometimes fissured and thick.

The tongue is characteristic and invariable—it is very rough, and is traversed by deep fissures, both conditions being due to the papilla being markedly hypertrophied. The tongue is often long and pointed.

The palate varies, but generally it is rather higher than normal, this condition, however, being exaggerated in appearance by the almost invariable thickening and hypertrophy of the gums all round the alveolar curve on the inner aspect. The

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*London Hospital Reports 1866.

†"Mentally-Deficient Children."—Shuttleworth.

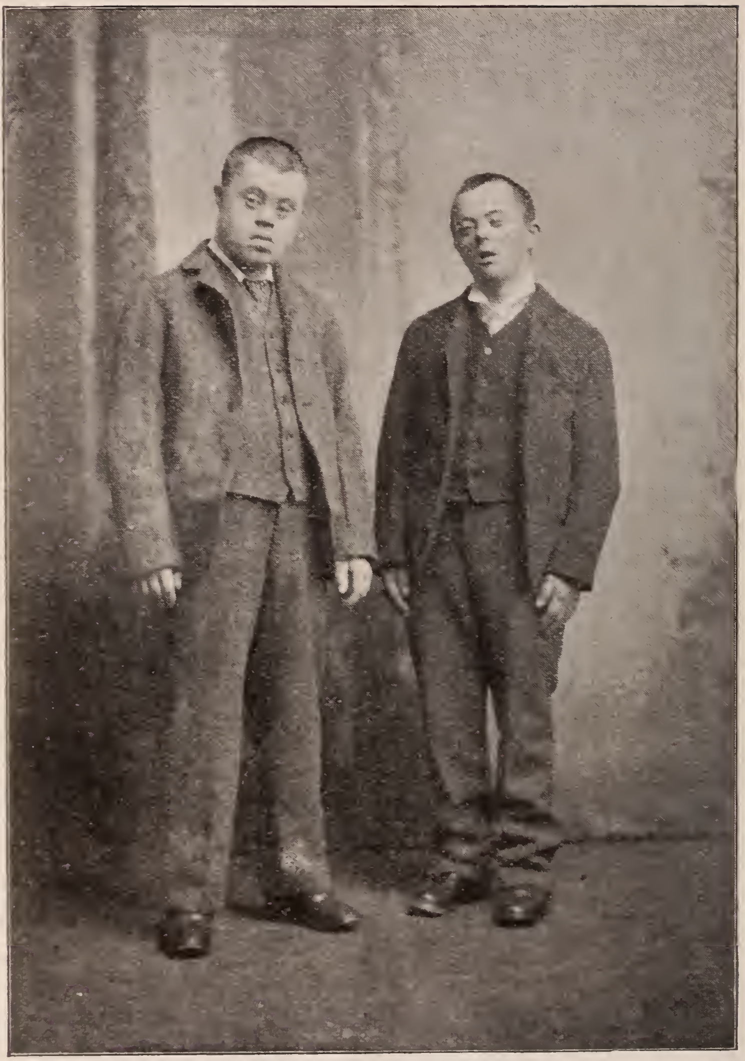

FIG. 1. Mongol Idiots.

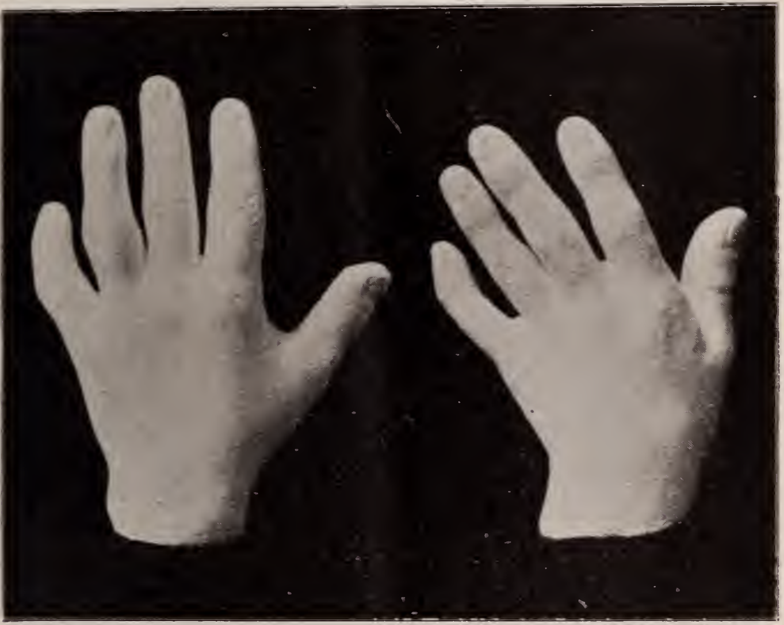

FIG. 2. Casts of Hands of Mongol Idiots, showing curve of little finger.

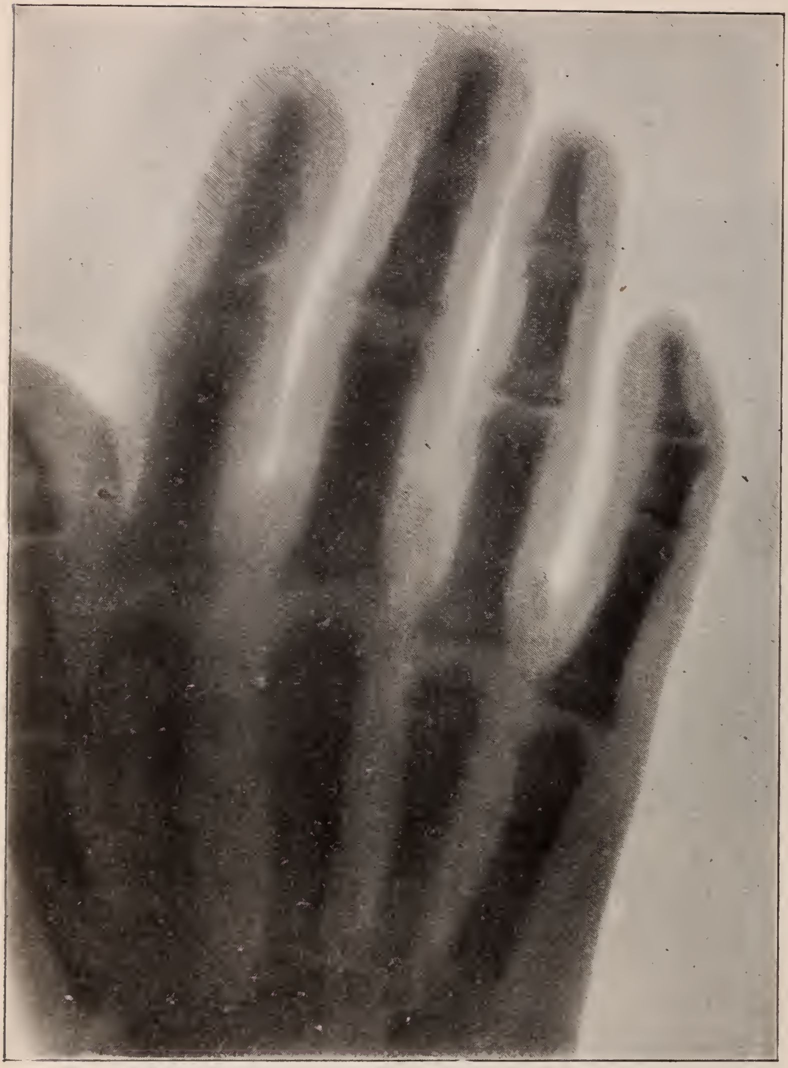

FIG. 3. Skiagraph of Mongol Hand.

alveolar curve itself is, as a rule, fairly good, but the teeth are irregular and carious. Both first and second dentition are delayed.

Their skin is coarse, dry, and scaly; and the hair is dry, thin, and straight.

Their circulation is sluggish, and their temperature is generally subnormal. In cold weather they show a tendency to chilblains and catarrhs. Cold also depresses their mental powers.

Their joints are remarkably lax. Many of them show a peculiar fondness for squatting with the legs crossed under them in oriental fashion.

The general shape of their hands and feet is short and thick, with fingers and toes below the normal in length.

The shape of the head is almost invariable. It is markedly brachycephalic, the circumferential contour approaching a circle. The plane of the face and the plane of the occiput tend to parallelism.

The skull is generally much thinner than normal.

The convolutional anatomy of the brain is remarkably simple, the primary convolutions are broad and large, secondary convolutions being few or absent.

Dr. A. W. Wilmarth after an examination of five brains of Mongol idiots writes as follows: "In all these the brains are of good size for imbecile brains, the pons and medulla alone being very small, weighing in each case about one-half ounce, whereas the usual weight is nearly twice as much."

"From the small size of the pons and medulla in every instance, there seems to be a strong probability that the low nutrition, and possibly the other anatomical peculiarities of this group, may be due to the imperfect development or absence of certain cell-groups in this region."*

Mentally the Mongol idiots resemble each other to a marked degree. Their mental reflexes are slow. Their speech is thick and guttural, and their vocabulary is very limited. They are fond of music, and have a good idea of rhythm and time. They are observant, and their power of mimicry is remarkable. Of number they have little idea.

In disposition they are affectionate and friendly, and, as a rule, they are clean and orderly in their habits.

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*"Report on the Examination of 100 Brains of Feeble-minded Children."—A. W. Wilmarth, M.D., Elwyn, Pa.

The etiology of this type of idiocy is not yet fully investigated. That the embryo commences existence with a lack of initial vital energy from either the paternal or maternal side, or both, is almost certain. This may be due to various causes acting on one, or both, progenitor, most frequently I think on the maternal side. Among the most frequent of these causes may be mentioned a family history of tuberculosis, immature or senile marriages, considerable inequality in the ages of parents, an exhausted condition of mother from rapid and numerous pregnancies, or from ill-health, or great mental worry.

This deficiency of initial vital energy is manifest throughout the whole life of idiots of this type, as shown by their general want of tone, and their marked tendency to degenerative diseases of a tubercular type. They almost invariably fall a prey to the tubercle bacillus before they pass the period of puberty. As Dr. Shuttleworth aptly expresses it, "There is reason to believe that they are essentially unfinished children, and that their peculiar appearance is really that of a phase of fœtal life."*

The peculiarity in the shape of the hand, to which I wish to call attention, exists in the little finger and consists in a marked outward bowing or curve of this finger. This curve is fairly well shown in the accompanying reproduction from a photograph of casts of two Mongol hands. The two boys from whose hands the casts were taken are shown in the group. The skiagraph† was taken from the hand of the boy on the left in the group. From it we see that the second phalanx of the little finger is considerably shorter than normal, and there is much lateral displacement of the terminal phalanx. This curve of the little finger occurs to a greater or less degree in nearly every case of Mongol idiocy I have examined, so that I think it may almost be looked upon as one of the constant peculiarities of this type. The degree of the curve is not in proportion to the degree of idiocy of the case, it seems to vary in each.

As to the etiology or morphology of the curve I can give no account, but it is so constant that one is inclined to the opinion that there must be some developmental basis for it. That it is one of the features of their generally unfinished condition seems probable.

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*"Mentally-Deficient Children."— Shuttleworth.

†The skiagraph was kindly taken for me by Dr. A. Schloesser of the Storey Institute, Lancaster.

TWO CASES OF NOMA.

By J. H. Huddleston, M.D.,
New York,
Chief of Clinic, Bellevue Medical School.

THE first case was at the New York Dispensary in the Italian class of Dr. R. K. Macalester, and to him I am indebted for the history; the second was in my own service at the Gouverneur Hospital.

Case 1.—Francesca Rienza, three years of age, was born in the United States of Italian parentage.

The parents and two sisters were living and healthy. During the first year of life, the patient had eczema for seven or eight months, and after that the father noticed a large and hard tumor at the site of the spleen. There was no specific history. The child ate heartily and of everything.

Three days before the first visit to the dispensary, the parents noticed a small black spot, the size of a pea, inside the lower lip, and at this the child kept picking; the next day a black spot corresponding to the place inside appeared on the outside surface below the mucous membrane of the lip; the next day there was a perforation at that point; the wound was and remained dry, had a foul odor and increased steadily in size. From the onset, there seemed to be no pain felt but the child developed diarrhœa.

On arrival at the dispensary, there was found to be a round perforating ulcer in the right lower lip, not crossing the median line, five centimeters in diameter; the edge was moderately dry and covered with a brown slough without any inflammatory margin, the circle was completed by a small flap of lip, the lower right incisors were loose and the gums were brown and soft. The following day the ulcer was the size of a two-cent piece and extended from the angle of the mouth slightly past the median line; all the incisors had fallen out, the maxilla was exposed though covered in part with a necrotic mass; the connecting bridge of lip was broken through so that the ulcer was semicircular; the tongue was moist and slightly coated. Examination of the chest revealed no changes in heart or lungs; the liver extended in the mammary line from the seventh rib to a finger's breadth below the border of the ribs; the spleen, easily palpable, extended towards the median line of the abdomen to one inch from the umbilicus, and descended to the anterior superior spine; the notch was plainly felt on the anterior margin; the abdomen was somewhat tense and prominent, and except over the liver resonant on percussion. The child was extremely emaciated, there was marked pallor and facies senilis; the epiphyses were enlarged, and there was a well marked rosary.

The clinical diagnosis was "noma, infantile atrophy, rachitis and amyloid degeneration." The case was sent to the hospital for cauterization of the lip, but died within a few hours after arrival.

One culture was made by the writer on gelatin and another on blood serum. Streptococci and bacilli were found in each, but no attempt at identification of the bacteria was made.

Case 2.—Marks Seigel, three years nine months of age, was born in America of Russian parents.

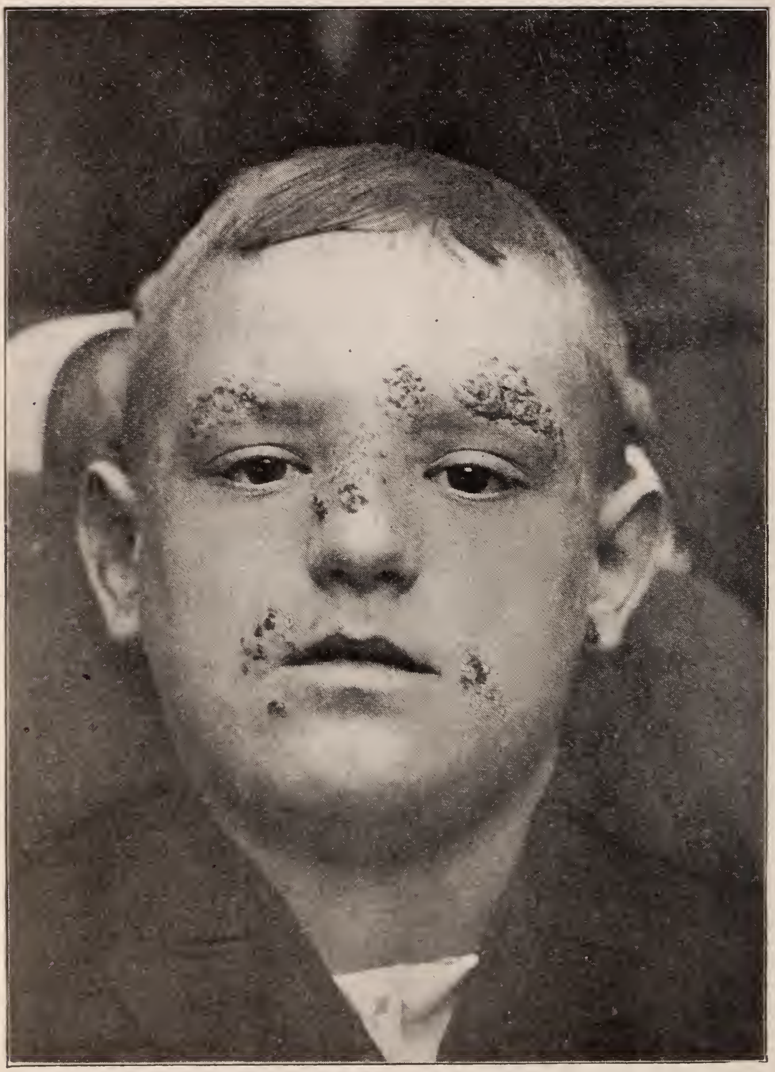
Previous history.—The child was breast-fed and perfectly healthy to the age of three years, when it presented the first symptoms of Pott's disease for which it was later treated by a back brace. Somewhat more than two weeks before admission, the child was taken with measles, but in a few days the rash practically disappeared, and the child was considered well. Ten days after the measles began, the left cheek began to swell, but the child did not cry or seem to suffer. The following day an ulceration was noticed on the inside of the cheek; the next day the ulceration extended to the upper jaw, and there was considerable foul odor from the mouth. On this day the child picked four teeth out of its mouth with its fingers; a day later, the odor was worse, and the child was evidently losing flesh and did not care for food; two days more and the mother noticed upon the cheek at a level with the ala of the nose a dark circular spot about the size of the end of a large lead pencil; in another day the skin over the spot was ulcerated, but there was not complete perforation; more teeth fell out, the swelling of the face was greater, and there was marked prostration and restlessness; the child groaned and kept its right hand in its mouth. The terminal phalanges of the index and second fingers of this hand became inflamed and ulcerated.

On admission, the sixth day from the beginning of the affection, the child was extremely emaciated and in a state of collapse. It was then apparently suffering no pain. The post-cervical glands were enlarged, and a psoas abscess was evident. There was no salivation, and an intense nauseating odor was present about the child. The temperature was 100.4, pulse 170, respiration 138. The child was incontinent of urine and fæces, both cheeks were œdematous and swollen, the eyes were almost closed, and a circular ulcer about the size of a twenty-five-cent piece extended from the angle of the mouth to the ala of the nose and backwards into the cheek; the ulcer was occupied by a slough, and the edges were somewhat indurated. All the teeth but the canine were gone from the left upper jaw, but the lower teeth were present though ulceration extended over the lower gums; the palate was perforated and the nasal cavity exposed. There was a large ulcer on the base and right side of the tongue.

Death followed within 24 hours after arrival at the hospital. During this time the pulse and respiration remained practically constant, but the temperature went up to 102° F.

Forchheimer (American Text Book of the Diseases of Children) says that the predisposing cause is the most important, the immediate cause is still unknown. Of these cases a cachectic condition was present in the first and measles immediately preceded the onset in the second. In 49 out of 98 cases published by Rilliet and Barthez the disease followed measles.

Concerning the rarity of the affection, the following statement is suggestive: Allchin (Keating's Cyclopædia Diseases of Children) says that during seven years in the East London Hospital for Children there were only five cases out of a total number of 6364 admissions, and during thirteen years at the Hospital for Sick Children there were only six cases out of a total admission of 13,000.



Contagious Impetigo.

CONTAGIOUS IMPETIGO.

By William S. Gottheil, M.D.,
New York,
Professor of Dermatology, New York School of Clinical Medicine; Dermatologist to the Lebanon Hospital, and the Westside German and N. W. Dispensaries.

THOSE of us who saw many sick children in New York last summer cannot fail to have been struck with the prevalence of a peculiar eruption affecting the face and hands. The skin clinics, of course, were full of them. Sometimes they came singly, oftener in groups of two or more from one family; occasionally in larger numbers from among the twenty-four families of a single tenement-house; and once, at least, in droves from a single street. We called the malady Impetigo, and as a rule treated it in a very laissez faire manner. For the rational treatment could not be undertaken with any hope of success in this class of patients.

Impetigo is a term that has been greatly abused in the past; and in consequence thereof, was almost banished from our text books. Like so many of the older designations that grew up before even an attempt at a scientific nomenclature was possible it meant various things at various times and in different mouths. Willan, the father of dermatology, called all eruptions characterized by superficial pustules impetigo; whilst the more deeply seated pustular affections were designated as echthyma. Hebra and his followers showed conclusively, however, that the English writer had included under these names different affections and various stages of maladies known by other titles. Both words fell into disrepute and disuse. Nevertheless, there is at least one affection for which the term impetigo is appropriate; and that is the contagious pustular disease described by Tilbury Fox in 1864, as Impetigo Contagiosa, and of which the epidemic cases above mentioned are examples. Its invasion, spread and course are uniform in the extreme, and its individuality is apparent to every observer.

The regular course of Impetigo Contagiosa is as follows: accompanied by more or less fever and gastric disturbance there suddenly appear upon the face and backs of the hands of the child a number of superficial vesicles filled with a semitransparent serum. In the beginning they are pinhead-sized and rounded; but as they grow larger they flatten out and their serum turns yellow. When they reach the size of a large pea they begin to dry up, and the flat pustule becomes a circular adherent golden yellow or darker brown crust. Most of the cases that come to us are in this condition. Vesicles and crusts, though they may be grouped, are absolutely discrete, and the skin around them is hardly inflamed. In a few days the crusts fall off, leaving circular reddened areas behind. There is no loss of tissue, and in two to three weeks the redness disappears, and all traces of the disease vanish.

Successive crops of flat pustules may appear on fresh areas of skin, or among the old crusts and prolong the disease for weeks; but each single pustule runs its course in a few days. The face is usually affected first and to a greater degree than the hands.

The malady is eminently contagious, and deserves its name. Children in the same family inoculate one another, and then their playmates. It spreads through schools and tenement-house blocks. During the last summer we saw at the clinic at least fifty cases that came from one tenement-house block in West 53d street. The epidemic that occurred on the Island of Rugen in 1885, is well known.

The etiological factor is undoubtedly a micro-organism. Kaposi claims to have found a special parasite; Geber and Lang believe that they have found the trichophyton, the ringworm parasite in their cases. Cocci of various kinds are always present, but the exact cause of the disease is still unknown. Some have attempted to place impetigo amongst the eczemas; but it does not belong there on account of its contagiousness, regular course, and the absence of the polymorphism so characteristic of the latter disease. Others have claimed that it is a "pemphigus," but a contagious, epidemic, self-limited pemphigus deserves a separate name. It in no way resembles ringworm, and the characteristic parasite has not been found by other observers.

These cases all get well if left to themselves; but it is not well to leave them to themselves, even if the prognosis is good. They spread the disease with their dirty fingers and their tenement-house community of clothing, bed-linen, and towels.

The rational treatment consists, of course, in the removal of the crusts, and the disinfection and protection of the surface affected. The crusts must be softened with oil compresses, the parts thoroughly cleansed with soap and hot water, and a boric or carbolic acid solution. As a protective dressing, Lassar's paste is as good as anything that we can employ:

℞ Acid. salicyl, gr. 30;
Petrolati, ℥ 1;
Zinci oxidi,
Amyl, āā ℥ ss.

This treatment undoubtedly causes the pustules to heal up quickly; but, unfortunately, we cannot often apply it. It requires a little care and a little intelligence, and of this these people have none to spare. So we do our best, prescribe our ointments, and let the disease spread. Luckily, with the advent of the cold weather, the microbes seem to lose their activity. But a few cases always remain to furnish a starting point for the epidemic of the next summer.

A CASE OF ACUTE INTESTINAL OBSTRUCTION FOLLOWING BRONCHO-PNEUMONIA IN A CHILD TWELVE MONTHS OLD.

By A. Charles Dogge, M.D.,
Helena, Mont.

OLGA H., twelve months old, has been very feeble since birth. The mother nursed the child up to the present time, but also allowed her to partake of food from table. The family are in very poor circumstances, and the surrounding conditions are very unfavorable. The child was taken ill on the 12th day of June, but I did not see her till the evening of June 20th.

When I arrived the child was in a semi-comatose condition. The prostration was very great and the cough severe. Temperature 103° F., pulse feeble, dyspnœa marked, and respiration rapid, 45 to 55 a minute. The cough seemed painful, and was accompanied by muco-purulent expectoration. The face was pale and anxious, the lips blue, the alæ nasi playing with each respiration. A diagnosis of broncho pneumonia was made and an unfavorable prognosis given. The child was put in a bath and then dressed in clean cloths. The room was kept at an even temperature and the air moist. The chest was painted with iodine and enveloped in a cotton jacket. A laxative of calomel and a stimulating expectorant were prescribed. The child rested comfortably during the night, and the next day the dyspnœa was less severe, the temperature lower, and the general condition better.

On June 22 she was conscious, and her general condition was so greatly improved that a favorable prognosis was given. This improvement continued steadily until the next evening, when a slight swelling of the abdomen was noticed. She had a stool after an enema of soap and water, but the abdominal swelling and the tympanites rapidly grew greater, and, in spite of all efforts at relief, she went into collapse and died the next morning at five o'clock.

Autopsy.—Both lungs showed evidences of consolidation. On section, there were small projecting areas of consolidation around the finer bronchioles. The terminal bronchi were filled with purulent material, and certain parts of the lungs were collapsed, airless and bluish-red. The microscopical examination revealed in the air-cells an exudate which was composed of leucocytes and epithelium; and also an infiltration with leucocytes around the wall of the bronchi.

The stomach was enormously distended with air, and there was an obstruction at the pyloric orifice, as if it had been tied with a band. The intestines contained some fecal matter and were distended with gas. There was a twist of the small intestine and one in the ascending colon. Around each volvulus were about three inches of gut in a greenish condition. The appendix was quite long and green, and contained a small amount of fecal matter. If the child had not been so feeble, an operation may have offered some hope for recovery, but I doubt whether it would have been of any service in this case.

* * *

A CASE OF COARCTATION OF THE AORTA—TUBERCLES IN THE CHOROID.

By George Carpenter, M.D.,
London.

PERCY S. M., aet. five years, was brought by his mother to the Evelina Hospital, on June the 10, 1895, with the following history. He had always been delicate and often suffered from bronchitis. At the age of two years he was ill with whooping cough and inflammation of the lungs. Six months ago he had an attack of bronchitis; his cough improved, but he wasted gradually, and his stomach was noticed to be gradually enlarging. The labor was a difficult one, and he was born with "snuffles." At three months of age he had a "gum rash"; the lower extremities, however, were not attacked. He had always been a "chilly" child, but was never noticed to have been cyanosed. The family history was not a satisfactory one. His father and mother had had (one or more) attacks of rheumatic fever, and there was a history of phthisis on the mother's side. Six weeks before the birth of the patient the mother was laid up with influenza and pleurisy. There was no record of any emotional disturbance with the mother whilst carrying. There had been five children of the marriage, one of whom had deceased from "inflammation of the brain" at the age of three years. All of them suffered from "snuffles" at birth, and some of them had rashes, chiefly on the arms and neck, which did not extend below the knees. There had not been any miscarriages, or still-born children. For the last month he had been languid and drowsy, and had declined his food. Some two or three months previous the glands in his neck were discovered to be enlarged.

On Admission.—He was seen to be a badly nourished, ill-developed child, with a pallid face, oral cyanosis, and loud and labored breathing. His temperature at this time, 3 P. M., was 98.2 F., his respirations 36 to the minute, and his pulse, which was feeble, 128 to the minute. On stripping him for examination, what immediately attracted my attention was the enlargement and tortuosity of the vessels about the scapular and abdominal regions, which will be presently referred to at greater length.

On Examination.—Heart. *The cardiac impulse* was somewhat diffused, but best seen and felt in the fifth interspace in the nipple line, and of a heaving character. Slight epigastric impulse was also detected. *The area of dulness* did not extend to the right, and commenced at the third left costal cartilage. *The sounds* were natural at the apex, but basic systolic bruits were detected on both sides. The murmur was heard rather better on the right side than on the left, and conducted better to the right clavicle than to the left. The bruit was also heard over the right chest behind, and in the right axilla, and detected above the spine of the left scapula. The bruit was not at all striking.

Vascular System.—In the armpits the subscapular and long thoracic arteries were thick, tortuous, and pulsating; the pulsation could be distinctly seen, and the arteries felt very hard. A thick, pulsating vessel, on both sides, could be felt crossing the subclavian triangle; this appeared to be the transverse cervical artery. The superficial cervical artery was enlarged on the left side. In the eighth and ninth interspaces behind, on the left side, enlarged, tortuous, and pulsating vessels could be seen and felt, running from within outwards, and other vessels were noticed crossing the posterior border of the scapula. Similar vessels were seen on the right side, but they were not so well marked, or so much enlarged. The axilliary arteries felt enlarged on both sides, and hard, and they were decidedly tortuous. The brachial arteries felt like whipcord; pulsation was well marked in them and they were slightly tortuous. The radial arteries did not appear to be thickened. A feeble pulse at the wrist was detected in both the radial and ulnar arteries. The superior epigastric and superficial epigastric arteries could be seen pulsating, and felt beneath the skin; the former were decidedly enlarged and tortuous, more so on the left side. The femoral arteries were small, felt like rigid cords, and very feeble pulsation could be detected in them. Feeble pulsation was distinguished in the anterior and posterior tibial arteries. The abdominal aorta could be felt feebly pulsating through the abdominal wall *Per rectum*, a digital examination revealed the following state of affairs: The abdominal aorta could not be felt. Two cord like structures were distinguished along the brim of the pelvis, one on either side. No pulsation could be obtained in these. The deep epigrastic arteries could be grasped bimanually between the finger in the rectum and that on the abdominal wall, and were found to be enlarged and tortuous. A number of other large vessels could also be felt in the abdominal wall. A collection of enlarged, tortuous vessels was detected in the pelvis, especially in the neighborhood of the sacro-sciatic notch, feeling like a collection of worms, on either side. Running down the front of the sacrum a large and thick vessel was found, and coursing along the posterior wall of the rectum was another enlarged and tortuous vessel.

Lungs.—Both sides of the chest were resonant on percussion. The breath sounds were extra-puerile, and an occasional rhonchus was detected.

Liver.—The free edge of the liver could be felt three-fingers breadth below the costal margin, in the nipple line.

Spleen.—The spleen projected about two fingers breadth in front of the costal margin, and was quite smooth.

Abdomen.—The abdomen was tumid, but, apart from the enlargement of the organs just mentioned, nothing abnormal was discovered.

Urine.—The specific gravity of the urine was 1025, of acid reaction, and contained no albumin or sugar.

Osseous System.—The skull appeared to be thickened. Bossing was detected on the parietal bones in the neighborhood of the coronal suture; the parietal eminences seemed to be normal. The occipital bones appeared thickened, and there was some doubtful thickening of the temporal bones. The teeth were regular and well formed, but several were necrosed.

Cutaneous System.—At the left angle of the mouth there were some linear scars. On the right buttock, near the anus, were two very small circular scars. A small scar was found just below the left patella. The fingers and toes showed a slight tendency to clubbing.

Glandular System.—The glands at the angles of the jaw, in the neck, and in the submaxilliary, and subclavian triangles were enlarged, fairly hard, and freely movable. Below the left mastoid process a large lump of glands, more matted together, could be felt, and a smaller mass on the right side, in corresponding position, was detected. The glands in the axillæ and groins were not enlarged. The boy had adenoids, and the posterior wall of the pharynx was smeared with muco-pus. The tonsils were normal.

Eyes.—An ophthalmoscopical examination was made with practically negative results, for, apart from the possibility of slight enlargement of vessels, nothing abnormal was detected.

Remarks.—My first impression of this case was, that it was one of that very rare malformation, coarctation of the aorta, but the possibility of syphilitic arteritis had to be reckoned with. The age of the child was a point certainly against coarctation, and the thickening of the large arteries in favor of syphilis; but, here again, the distribution was most unusually extensive. Coarctation of the aorta—an excessively rare malformation at any time—is not found out till adult life is reached. When the patient presents himself for heart troubles, a physical examination reveals cardiac enlargement, with possibly a failing heart, and a tolerably accurate opinion can be formed as to the cause of this cardiac enlargement, when with it there is enlargement of, and tortuosity of the abdominal and scapular arteries.

Such an extensive syphilitic arteritis as that described seemed to me quite out of the question, and the vascular condition could be much more rationally explained on the theory that it was due to well nigh empty and contracted arteries. The child was possibly a subject of congenital syphilis, certainly, but, as is well recognized, syphilitic arteritis is extremely rare in congenital syphilitics; moreover, when it does occur, the distribution is focal and local, usually intracranial, and not a general vascular disorder, such as this case presented. With these points in my mind I showed the case to my colleague, Mr. F. Eve, who was of opinion that a small portion of one of the tortuous arteries should be removed for the purpose of microscopical examination as an aid to diagnosis, so as to clear up the question of syphilitic arteritis. Mr. Eve, accordingly, on June the 15th, removed, under chloroform, a small piece of one of the superficial arteries of the abdomen. During the operation the vessel did not pulsate like an artery, the flow of blood being venous both in color and appearance, a fact which caused some comment at the time. When a microscopical examination of the vessel was made, no fault could be found with it—it had all the appearance of a perfectly healthy artery.

From the time of admission till June the 19th, when a further ophthalmoscopical examination was made, the child had retrograded. His temperature chart showed irregular excursions, and was made of a hectic type. The highest record was 102.4° F., and the lowest 96° F. The highest recorded respirations were 46 to the minute, the lowest 24. The highest pulse was 160 to the minute, the lowest 100. Occasional puffiness of the face and blueness of the lips were seen, the breathing became loud and labored, at times, with occasional coughing; at times he was drowsy by day, and restless by night. On the whole, however, he slept and took his food fairly well. Once or twice he complained of abdominal pain, and on one occasion the abdomen was very distended. A physical examination revealed nothing definite. He required simple enemata from time to time. Although no really definite symptoms made their appearance, he steadily emaciated, and it was thought that an examination of the eyes, a second time, might yield a clue to the downward tendency. The right eye was first examined. A small, but well-marked tubercle was found in the choroid, on the temporal side of the optic disc, and some little distance from it, which was about the size of a big pin's head (indirect), of a light dirty yellow color, the retinal pigment adjoining it giving its margin a worm-eaten appearance. Two other smaller tubercles were detected a little below this one. The optic disc was in an early stage of neuritis. Owing to the extreme restlessness of the child, no clear view of the fundus of the left eye could be obtained, a condition of things which rendered an ophthalmoscopical examination at all a most tedious task. It certainly cleared up the nature of a portion of his malady, and made the diagnosis of general tuberculosis almost a certainty. Most unfortunately one of the nurses in the ward conveyed the result of—or, rather, the opinion formed on—this examination to the relatives of the child, an indiscretion which brought about his removal home by his mother. By this action the verification of the diagnosis has been rendered an impossibility. There is no doubt in my mind—nor do I think there can be any in that of others—that this child's aorta was stenosed, or occluded, below the level of the left subclavian artery. The balance of probability is in favor of a congenital narrowing of the aorta in the usual situation, though it would perhaps be unwise to overlook the possibility of an acquired stenosis in the same spot, infinitely rare as such a possibility must be, with secondary thrombosis and occulsion. In tubercular mediastinal affections in children such an occulsion occasionally happens in the big veins, and it would be rash to deny that this could happen locally in the aorta. Indeed, the man who denied that any seeming impossibility, or something contrary to one's cherished medical convictions, could occur in medicine would be rash indeed. There was certainly no *evidence* of mediastinal implication, but this, by no means, can be considered to give the mediastinum a clean bill of health. On the whole, however, such an hypothesis is far-fetched, in comparison even with such a rarity as congenital coarctation of the aorta detectable at such an early period of existence, and I believe that if an autopsy had been procurable a congenitally stenosed or occluded aorta, at the point of junction of the ductus arteriosus, would have been discovered. In many cases this coarctation presents the appearance of a linear constriction; sometimes a perforated diaphragm is seen; at others a ligamentous cord is found at the seat of constriction, in which case the vessel is entirely closed at this point. In 24 out of 38 cases of this condition tabulated by Peacock, the duration of life varied between 21 and 50 years.

Fatal Cases of Poisoning with Sorrel Leaves.— Dr. Flemyng records in the *Lancet* two fatal cases of sorrel poisoning, in which two little girls succumbed to the effects of oxalic acid poisoning after eating sorrel leaves. The leaves were eaten in the afternoon of the day previous to that on which the children were brought for treatment, which consisted in the administration of chalk suspended in milk, with lime-water and castor oil. Both died, one eighteen and the other twenty hours after taking the poison. Post-mortem examination revealed no noteworthy appearances except slight congestion of the small intestine in one case. Toxicological examination indicated the presence of a small quantity of oxalic acid in each case. An exploration of the fields which the children visited gave no indication of any poisonous plants but arum and conium, besides the sorrel, and no trace of the two former was found in the stomach.—*Pharm. J., 1896, No. 1357, 513.*

PRACTICAL NOTES.

Dispensing Calomel with Sugar of Milk.—For years all of us have dispensed calomel, together with "cane sugar," in the form of powders, and no fault may have ever been found with this combination. Within the last few years it has been found by many of our physicians to be necessary to follow the "progressive line"—that is, to change the "old fashioned" cane sugar to milk sugar, in the case of admixture with calomel, and even with more delicate and more easily decomposable chemicals. "Milk-sugar fame" came from abroad, and we here naturally ape European fashion, whether rightly or wrongly. In my experience calomel and milk sugar, safely ensconced in a good powder paper, as is the common practice among pharmacists, will not keep so long as a mixture of "cane sugar" and calomel, without showing signs of decomposition (turning gray).

This is generally not noticed, because of the large quantity of sugar of milk present, the excess hiding the discoloration; but when, as in my store it is often the case, small amounts of sugar of milk are wanted with calomel, so that the powder can be placed dry upon the tongue or into the mouth of a small child, the metamorphosis of the calomel can be easily noticed before the administration of the dose.—*Drescher Med. Rec., 1896, L, 303.*

A Smallpox Visitation.—The tremendous destruction of life caused by smallpox, previous to the discovery of vaccination, can hardly be realized in our day. The disease was never absent from the chief towns, the victims in London numbering thousands yearly; but it occasionally became epidemic, and was as destructive as was the plague in the seventeenth century or the cholera within living memory. A frightful outbreak occurred in 1758, when one-tenth of the total mortality was due to it. Gloucestershire especially suffered severely, and in Cirencester the havoc was so great that the neighboring farmers refused to enter the town, and the markets were held in the outskirts. At length, after the scourge had raged for over three months, the following advertisement, signed by the church-wardens, overseers, and high-constables, was published in the *Gloucester Journal:*—"Cirencester, June 27, 1758. Whereas the smallpox is greatly upon the decline in this town, and must in a short time be entirely over, *there being but few people remaining to have it*, this is to give notice that whoever shall presume to bring any person or persons from any distant place or places into this town (not belonging to this parish) having the smallpox, or in order to have it here, shall be prosecuted with the utmost rigour of the law." Similar notices were published by the authorities of Tewkesbury, Winchcombe, and other towns.—*Bristol Med. Chir. Journ.*

A Substitute for Cod-liver Oil.—During the hot season, when cod-liver oil is apt to disagree, the following may be substituted in cases of pulmonary tuberculosis:—

℞ Solution of Potassium Arsenite, ʒ ij
Syrup of the Hypophosphites, ℥ iij.

M. One teaspoonful to be taken thrice daily after food.

Insects' Stings and Bites.—The following may be used to prevent the bites of insects:—

℞ Acetic Ether, 5 parts.
Eucalyptol, 10 parts.
Eau de Cologne, 10 parts.
Tincture of Pyrethrum, 50 parts.

M. Dilute with four or five times its bulk of water and apply as a lotion.—*Practitioner.*

Vinegar as an Antidote to Carbolic Acid.—Applied to the skin or mucous membrane burnt by carbolic acid, vinegar causes a rapid disappearance of the characteristic whiteness as well as the numbness produced by the acid; it also prevents the formation of a slough. Vinegar also neutralises carbolic acid introduced into the stomach. In cases where carbolic acid has been swallowed, therefore, Professor Carleton suggests, the patient should be made to drink vinegar diluted with an equal quantity of water, and the stomach should then be washed out.—*Practitioner.*

Incontinence of Urine.—Dr. H. B. Carpenter has been using the fluid extract of rhus aromatica, with good results, in incontinence of urine in children—giving from 2 to 15 drops three times a day. If the urine is acid and high-colored it is well to begin the treatment by giving an alkaline mixture as follows:

Potassium citrate	2 drams;
Spirit of nitrous ether	4 fluidrams;
Simp	1 fluidounce;
Water sufficient to make	3 fluidounces.

Dose—Teaspoonful in water every two to three hours.

In nearly all cases it is wise to add tonics, especially strychnine, to the treatment.—*Philadelphia Polyclinic.*

Tracheotomy.—The necessity for performing tracheotomy may arise when the surgeon is unprovided with tracheotomy tubes. Disinfect a fairly large hairpin, and bend both ends at a rather acute angle at about the middle of their length. The ends of the branches may then be twisted into small hooks or rings, to which tapes may be attached. The blunt end of the hairpin is inserted in the trachea, and the branches tied by tapes fastened behind the neck. This will serve until proper tubes can be procured. Failing a hairpin, take a stitch on each side of the opening in the trachea with stout silk, and tie the ends behind the neck. Any piece of iron or copper wire, of suitable size, may serve as well or better than the hairpin.—*Ala. M. & S. Age, Med. Rec., 1896. L, 319.*

Acid Lemonades.—It is well known that acid fluids are very unfavorable to the vitality of the cholera vibrio. Acid lemonades are therefore likely to be to some extent protective, and in any case they can be recommended as agreeable and wholesome beverages during the summer months. The following formulæ may be used:

Citric Acid Lemonade.

Citric acid, ½oz.; the juice and peel (cut small) of two lemons; boiled water, 1 gallon; sugar to taste, ½ lb. To be made fresh every twenty-four hours.

Sulphuric Acid Lemonade.

Made as above, substituting acid sulphuric dil., 1 oz., for the citric acid. Syrup of lemons or orange, 1 pint; boiled water, 4 gallons; dilute sulphuric acid, 2 ozs.

Nitric Acid Lemonade.

With 1 oz., dilute nitric acid instead of citric acid.—*Practitioner.*

Editorial.

FAN VENTILATION AS A LIFE-SAVING MEASURE.

The torrid weather of the first half of August, covering the whole of the Central and Eastern United States, was the cause of much suffering and many deaths. It is to be noted, however, that the infant death rate in New York City was conspicuously small. This remarkable fact must be attributed to recent advances in pediatric practice, especially as regards infant-feeding and the abuse of drugs, and to improved municipal sanitation. In spite of this encouraging feature, it is unquestionable that many infants and young children paid sad tribute to the destroyer. Injurious effects were observed not only in increased susceptibility to the usual summer diseases, but dangerous prostration and lowering of the vital forces, without special digestive disturbance, were not rare.

It was in such a case that Dr. James S. Brown, of Montclair, New Jersey, advised the use of an electric fan for its refreshing and tonic effect. A nine-inch fan, operated by four large galvanic cells, was quickly installed, and the alleviation was prompt and decided. It is Dr. Brown's opinion that the child would not have survived the hot spell without the relief thus afforded. Other instances have been reported to the writer in which strikingly favorable effects were observed from fan ventilation. In one instance a lady prostrated from heart disease was, by the unanimous testimony of the family, enabled to survive the summer only by the supporting effects of the air currents from an electric fan. When the fan was started, her restlessness would often disappear and she would drop off into refreshing sleep. A New York firm in the electric business claims to have received many letters testifying to the saving of life during the past summer by the use of fans.

It is evident that a fan of sufficient power will purify and cool the air of a sick-room, banish flies, and soothe and refresh the patient suffering from the depressing effects of prolonged heat, and lighten the labor of attendance. Battery fans can now be had at a reasonable price, which will run 125 hours without recharging, and which can be started and stopped at will.

In conclusion, it would appear that this practical sanatory means should not be restricted to private practice, but that fans of proper capacity should be installed in dispensary rooms and in hospital wards, where they could readily be operated by the dynamo-electric currents in general use.

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Abstracts.

PATHOGNOMONIC SIGNS OF CONGENITAL SYPHILIS.

P. SILEX (*Berliner clinish Wochenschr, 1896, xxxiii, 139*). The following is taken from an address delivered before the Berlin Med. Gesellschaft:

The author recognizes three characteristic signs of congenital syphilis. The first relates to the eyes, the second to the teeth, and the third to the skin. As the only real pathognomonic symptom relating to the eyes, he mentions chorioidea areolaris, in which are found, scattered over the fundus particularly in the neighborhood of the macula, black points and patches, which present here and there white spots of different size and larger areas with a black border. These represent atrophic colonies in the chorioidea, and pigment patches derived from the pigment of the stroma and pigment epithelium. The retina also being involved vision in these cases is always very much impaired. Mercurial inunctions and exhibition of potassium iodide effected no change. In a few cases, the process, which is rare, remained unilateral. Of the numerous deformities of the teeth usually mentioned, S. only considers that one form pathognomonic, where the permanent upper incisors present a central excavation, denuded of enamel, beginning on the surface for mastication, and continuing upward in the shape of a crescent. As a sign which is only found in congenital syphilis, he considers the well-known scars radiating outward in straight lines, which do not confine themselves to the corners of the mouth or to the lips, but radiate further to cheek and chin. The histological examination of a case which was particularly marked, proved that these lines are not scars in the anatomical sense, as papillæ, glands, and vessels were well preserved in the tissue under consideration. Very likely the peculiar furrow-like appearances, which are called pseudo-scars by S., are due to a muscular tension of the skin. These three kind of conditions which were demonstrated by the author both on the subject and through illustrations, are considered by him absolutely pathognomonic. So that the presence of even one of them will lead to a positive diagnosis of congenital syphilis.

TREATMENT OF PERITYPHLITIS IN CHILDHOOD.

A. Schlossmann (*Münch med. Wochenschr, 1895, 41—Archiv. für Kinderheilk, 3 and 4, 263*). The main points in medicinal treatment are the same in children as in adults. The author deprecates the use of laxatives and clysters in the early stage of the disease, as they may hasten the danger of perforation of the vermiform process, and advocates perfect immobility of the gut, an indication which is best covered by the enforcement of absolute rest in bed, ice applications, iced fluid food, and the administration of opiates. Regarding the dose of opium, one need not be anxious on account of its usual danger to children, as it is according to experience very well borne in all the inflammatory conditions of the peritoneum. It is impossible to fix the dose, but it should be given according to tolerance, which can only be measured by the behavior of the pulse and the pupils under its influence. In cases where vomiting is a prominent symptom, the narcotic should be administered in some iced fluid, or by means of suppositories. At the conclusion of the article, the author mentions the surgical treatment of this disease, and confesses that an early use of the knife meets with his approval.

RESULTS OF THE PATHOLOGIC ANATOMICAL EXAMINATIONS OF THE EAR IN MEASLES.

F. Bezold (*Kinderarzt, 1896, vii, 80*) after carefully conducted examinations for a number of years arrives at the following practically important conclusions: In not one case of death from measles was there missing at the autopsy a mucopurulent or purulent secretion in the temporal bones. With the exception of one case, where the process existed before the contraction of measles there were present fresh inflammatory processes, confined in one case only, to the bony tube, in two to the tube and the floor of the tympanum. In all other cases there were collections of secretions, redness, and swelling covering all the cavities of the middle ear. A spontaneous perforation of the drum membrane is not often produced by the otitis of measles. Injection of the vessels was slight, irregularly distributed and occasionally punctiform. The destruction of the drum membrane and the auditory canal occur very seldom, probably on account of the more protracted course of the inflammation, than we find in other forms of otitis, notably that occurring with scarlet fever. The otitis of measles is to be looked upon as an integral part of the systemic infection, and does not arise through extension from the nose into the Eustachian tubes, etc. In the greater number of cases the pus is again absorbed without having caused perforation of the membrane, or any injury even to the hearing. In a few cases the exterior of the drum membrane does not show any changes, but usually it is somewhat darker, and particularly in the posterior upper quadrant of a diffuse livid red color. Masses of pus may shine through in the intermediary zone of the posterior half, giving it a yellowish color, and usually it is slightly bulging here. Besides this, single radiating vessels are frequently seen, and in single cases a sinking of the drum membrane is observed. The surface becomes successively dimmer, often wrinkled, and on greater saturation by serum or thin liquid pus, raised vesicles are noticed. If a perforation takes place from the middle ear, the secretion will continue days or weeks. The perforation is seldom large, and always closes up again. With good treatment, hearing is restored even in the perforative form. In comparison with the forms of otitis which complicate other infectious diseases, the one appearing with measles is to be considered of a relatively mild character.

CONTRIBUTION TO THE ETIOLOGY OF RETENTION OF URINE.

W. Knopfelmacher (*Centralbl. f. Kinderhkde, 1896, i, 1–24*). Only few etiological factors are usually given in the reports on the retention of urine in children. Biedert recognizes only one—ischuria spastica; Teevan only three mechanical causes—congenital stricture of the meatus, phimosis, and stone. English mentions (1) Abnormal developments and defects. (2) Congenital narrowing of the urethra. (3) Ridges formed by the mucous membrane of the urethra. (4) Excess of uric acid, gravel, and stone. (5) Inflammatory processes of the kidneys, the bladder, the prostate gland, the urethra, the foreskin (oftentimes due to smegma, to periprostatitis, and pericystitis, originating from the vessels of the navel, or from coxitis). (6) Retention cysts in the follicles of the urethra, closure of the sinus pocularis in boys, swelling of the papillæ. 7) Changes in the prostate (congenital hypertrophies). (8)

Foreign bodies and growths in the urinary organs. Bokái adds: (9) Sagging of the mucous membrane of the bladder, (10) Strictures. (11) Local atony and paresis of the bladder. (12) Stupor in infectious diseases. (13) Diseases of the brain and spinal cord.

It is remarkable that in this etiological enumeration, there is an absence of just that group, which in adults so frequently causes retention of urine, viz.: neoplasms in the neighboring organs. The following observation will prove that even in infants this etiological cause must be taken into consideration.

A child aged 9 months was brought to the clinic with the history of a continued fever rising to 40° C., of having had no passage for some weeks, and had not passed water for 40 hours. Examination revealed an evenly distended abdomen and in the median line over the symphyses an oval, elastic tumor, which reached to the umbilicus—the distended bladder. Percussion was dull over the region of the bladder and in both flanks; over the rest of the abdomen percussion was very tympanitic; no fluctuation was felt. Normal dulness of liver and spleen was much diminished on account of the presence of meteorism. The urine was turbid, slightly ammoniacal, contained a small quantity of albumin, and many pus cells were found in its sediment. Catheterization was easy. The finger was easily introduced into the rectum, but when passed backward came in contact with great resistance, which seemed to fill the whole pelvis, and encroached so far on the symphysis pubis, that the finger could just be moved within the rectum. On pressing upward fecal masses were felt. Believing the retention to be due to an accumulation of fecal matter, and its pressure through the rectum, a high irrigation of the bowel with water and oil was ordered. The child then passed a little urine, but the bladder could not be fully emptied. After the child had been in the hospital four days, the fever continuing, and other symptoms remaining unchanged, it died. An autopsy revealed, besides a pyelonephritis suppurativa acuta, the presence of a tumor which was of the size and shape of a hen's egg, attached to the lower sacral vertebra and pressing the rectum forward, at the same time compressing it and the neck of the bladder. The extraordinarily congested, dark red swelling proved to be a round-celled sarcoma of the sacrum.

This case is not an isolated one. There is on record the case of H. Smith, in which a fibroid of the pelvis caused retention of urine in a child 19 months old, and another by Jones, of a 12 year old boy, caused by a lymphadenoma of the lesser pelvis. The reason that tumors of the pelvis do not more frequently cause retention is, probably, because tumors found in this region (the pelvis), and which are always congenital in infants, have a tendency to grow outwards. To complete the etiology of retention in children, two more causes must be cited: the atresia hymenalis, where the accumulation of secretions may produce compression of the urethra, and the tumors of the sexual organs in girls, for example, the polyp sarcomas of the vagina, which produce retention partly from compression of the urethra, and partly by extension onto the urethra or wall of the bladder.

A CASE OF SYPHILIS HEREDITARIA TARDA.

HUNICKEN (*Deutsche med. Wochenschr, 1896, xxii. 46*) reports a case of knee-joint disease with accompanying periosteal irritation of both tibiæ, whose character was only so readily discovered because H. fortunately knew the history of both parents. The mother of the now 9 year old boy had been infected by her husband about ten years ago, in the second month of pregnancy, and could only be freed from spyhilitic symptoms after a treatment of six weeks by mercurial inunctions, and the internal exhibition of iodide of potassium. The robust woman was delivered at the normal end of gestation, of a small, but otherwise perfectly healthy boy, who throve exceedingly well at the breast and presented no suspicious symptoms whatever. He learned to walk before he was two years of age, and bore the operation of vaccination well, which had been postponed to his third year by Dr. H. as a precaution, because H. had repeatedly had the experience, that any latent disease germ in the child might very easily be developed through the process of vaccination and its accompanying fever period. With the exception of an attack of croupous pneumonia in his sixth year, the boy was never ill. Now, however, in his tenth year, he began to complain in the beginning of February, of pain in both knees, at first only on walking, but later both knee joints became swollen, and gradually took on pretty large dimensions, without any other changes. After three weeks of this swelling, there appeared periostitic pains which were notably increased on pressure over both tibiæ. The diagnosis of probable congenital syphilis which was made was substantiated by the success of the antisyphilitic treatment instituted. Inunction of mercurial ointment daily (1 grm.) for four weeks, and the internal use of potassium iodide for eight weeks (daily dose ½ grm.) removed the knee-joint disease as well as the periostitic pains absolutely.

H. does not believe that in this case there could have been an acute stage of syphilis, which, according to Baumler, may pass unrecognized during the first year of life, as the child had been under constant observation by the parents as well as by himself. But another point made by Baumler was confirmed in this case, namely, that the symptoms of hereditary syphilis which make their appearance at the time of the second dentition or at puberty, are symmetrical, attacking both halves of the body. Only that in this case there is no question of a relapse, but it constituted the first symptom of a hereditary syphilis.

MELÆNA TRAUMATICA.

R. Langerhans (*Centralbl. f. Kinderheilk, 1896, i, 27*). Preuschen believes in two forms of melæna neonatorum: The one includes seemingly healthy children who are attacked with bleeding from the mouth or anus soon after birth or during the first days of life; the other includes all those children who show well-marked symptoms of a general disease (sepsis, etc.), do not have hemorrhages before the 8th or 11th day after birth, and who show at the autopsy hemorrhagic changes in different organs; in this group the hemorrhages from mouth or rectum constitute only the symptom of a hereditary or acquired hemorrhagic diathesis. The first group is only to be considered as coming under the head of "Melæna vera." The cause of the latter he believes to be injuries to the membranes of the brain and to the brain itself during birth, particularly in those cases complicated with hemorrhage. Experimental studies prove these rules of experience, as they proved that gastro-enteric hemorrhages may be caused by changes of the brain. The connection between the bleeding from the gastro-intestinal canal (also pulmonary hemorrhages) with changes, notably injuries of the brain, has been already known, but was never so positively asserted. Now L. has also contributed a case to this question. A child born out of wedlock on February 12, 1895, was said to have had twitchings of the left leg and arm on March 21st. On the following day it was admitted to the Krankenhaus, where the child, which was much atrophied, and had a subnormal temperature had occasional twitchings of the left side of the face and the left arm and leg. No external injuries whatever could be discovered. Death occurred March 25th. Section disclosed a hemorrhagic infiltration of the pericranium, an abundant intermeningeal hemorrhage, and a fissure of the left parietal bone; along the whole gastro-intestinal tract there were found numerous dark masses, which were partly of a bright red and partly of a dark brown color. All the internal organs were very anæmic. One may well class this case with the melæna vera. Certainly the trauma did not exist from birth (opposed to this was the freshness of the extravasation), but was of a later period, and though the mother's actions were rather suspicious, nothing could be proved against her. L. maintains that an external injury must have been inflicted. The absence of any injury to the soft parts does not militate against this fact, for only lately Erle has published three cases where, after a heavy blow, fissures occurred, without the least visible external evidence. The death of the child was in consequence of the hemorrhage. The intermeningeal hemorrhage had probably already occurred before the child was admitted to the hospital (twitchings on the day previous).

The hemorrhage of the stomach, however, took place later, as it was not in evidence during life. The subnormal temperature before death, and the great anæmia of all internal organs found at the autopsy, indicate that the copious hemorrhage of the stomach should be taken into account in judging of the cause of death, along with the pressure on the brain which must have been produced by the large intermeningeal hemorrhage. There was no question of sepsis, syphilis, hemophilia, etc., in this case; nor was there present an acute infectious disease. It was undoubtedly a case to be added to Preuscher's melæna vera. However, this author claims that the hemorrhage should follow immediately after birth, while in this case it made its appearance after five weeks, and was not produced by any injury during birth, but later. L. would like to have the word vera, which really belongs to all forms of melæna, discarded, and would call all cases of melæna, which are caused by an injury—malæna traumatica.

A CASE OF SARCOMA OF THE CÆCUM.

JOHN HOMANS (*Annals of Surg.*, *1896*, *xxiv*, *42*) reports a case with the following history: Until January, 1896, the child had been extraordinarily well and strong and was the picture of robust health. She suddenly complained of abdominal pain and began to emaciate rapidly. A physician, without making any physical examination, pronounced the case one of dyspepsia, but pain continued and emaciation progressed rapidly. The appetite, however, continued excellent, almost ravenous. At length a movable tumor in the abdomen was made out. She was pale and thin. Her morning temperature had been 99.3° F., and at evening 103.2° F. There was a movable solid tumor about the size of a sheep's kidney in the appendicular region. There was very slight tenderness on pressure. The diagnosis was uncertain. After etherization, the child was placed in the Trendelenburg position, and the tumor was found to have left the cæcal region and to have gone almost to the epigastrium. As the tumor could easily be brought to the median line, an incision was made three and a half inches long in the linea alba between the umbilicus and pubes.

The tumor was found to be a sarcoma and to involve a portion of the anterior wall of the cæcum. About half a pint of ascitic fluid ran out. The tumor, a flattened sphere two and a half inches long, was somewhat adherent to the ileum, and had grown not only into the wall of the cæcum but also into the ileo-cæcal valve. A solid rubber cord was tied round the intestines above and below the growth and the tumor, with about an inch of the anterior wall of the cæcum and a portion of the ileo-cæcal valve, was removed. A solid piece of fæces lodged in the cæcum was taken out, the parts were douched with boiled water, and the opening in the cæcum, left by the removal of the growth, was sewn up with two rows of continuous Lembert sutures of silk. The sewn-up bowel was given a final douching, after the removal of the constricting rubber cord, and was then returned to the abdomen. A small wick of iodoform gauze was laid upon the seam in the cæcum, and the end was left protruding out of the wound, which was then sewn up with silkworm gut. Iodoform gauze, absorbent cotton, and a swathe were put on. An enema of four drops of laudanum and a drachm of brandy was given.

Dr. Whitney's report is as follows: "The tumor of the cæcum from a girl, five years old, consisted of a more or less lobulated mass the size of a large potato, pale, grayish, and slightly translucent on section with a homogeneous surface. To this was intimately adherent a portion of the bowel, the walls in places being infiltrated from without inward by the new growth. Microscopic examination showed its structure to be made up of small spindle cells with a little homogeneous intercellular substance, and with the blood circulating in sinuses without definite walls. The diagnosis is a spindle-cell sarcoma, which has originated in the tissue about the intestine."

The patient had more or less pain for a few days, relieved by enemas of liquid Dover's powder. The wound united by first intention, the gauze was removed on the second day, and the patient went home at the end of three weeks. From the nature of the growth a recurrence seems very probable, but is not by any means certain.

THROMBOSIS OF THE SUPERIOR MESENTERIC VEIN.

At the Medical Society of Victoria, DR. C. H. MOLLISON showed this specimen removed from a boy 11 years old, admitted to the Children's Hospital suffering from ascites and hæmatemesis. Tapping was resorted to, but the fluid soon re-accumulated. An exploratory laparotomy was also performed, but without much result. At the autopsy, a considerable amount of clear fluid was found in the peritoneal cavity, the spleen was greatly enlarged, and was unduly attached to the diaphragm by firm, fibrous adhesions. The stomach was also adherent to the under surface of the liver, and the lesser omentum was greatly thickened. The portal fissure was occupied by firm, fibrous tissue, which extended some way into the substance of the liver. The portal vein was contracted, while a large, pale, adherent thrombus occupied the upper portion of the superior mesenteric vein; that portion of the vein below the obstruction being considerably dilated. There were also some ante-mortem thrombi in some of the branches of the splenic vein within the organ. The splenic substance was very firm and fleshy. The liver was smooth and much increased in consistence. The kidneys were intensely tough, though smooth on the surface. Sections showed marked thickening of the fibrous framework of the liver, kidneys, and lungs, with hypertrophy of the coats of the vessels. The disease was regarded as a manifestation of congenital syphilis.—*Intercolonial Medical Journal of Australasia, Vol. I, p. 318.*

A CASE OF BARLOW'S DISEASE.

G. LIEBE (*Münch med. Wochenschr., 1896, xliii., 30*) relates the history of his own child, which, without having shown the least signs of rhachitis, living in the best possible hygienic surroundings, was taken ill with true scorbutus (bleeding of the gums, enlargement of the glands, and red macules similar to contusions covering the limbs and nates, general malaise and severe chill). There was no cause to be found but this, that the child, though over two years of age, was put on Soxhlet's sterilized milk of three-quarters of an hour's sterilization. The use of simply boiled milk, and the giving of fruit and fruit juices in plenty, produced a rapid cure, with the exception that the submaxillary swellings remained, in spite of linseed meal poultices, for many months.

THE PRODUCTION OF ILL-HEALTH AND DEATH BY THE USE OF CARBOLIC ACID AND ALLIED ANTISEPTICS.

VON STUHLEN (*Kinderarzt, 1896, vii, 42*) draws the following conclusions from his investigations of the subject:

1. The use of carbolic acid and allied disinfectants are responsible for shattered health and deaths, but more often is death produced than serious chronic illness.

2. Most accidents are due to carelessness, usually through the careless setting away of the poison, so that a mistake is easily made by exchanging it for other medicines or liquids.

3. Medical poisonings occur very seldom, and when they do occur are usually due to the use of solutions of too great strength.

4. Children and weakly persons are very susceptible to the poisonous actions of antiseptics, particularly to carbolic acid poisoning, and in these patients it is possible that the usual strength of the solution may produce bad effects.

5. The application of carbolic acid to mucous membranes in large quantity is very dangerous, on account of the rapid

absorption which takes place—above all is the use of carbolic acid, even in small quantities, dangerous as an injection.

6. It is well to be somewhat sceptical as to the absolute immunity from poisoning by the newer antiseptics. There is no absolute proof that they are perfectly harmless; in fact, a few cases of accidents have already happened through them. They are, however, as a rule, much less dangerous than carbolic acid.

7. The autopsies in cases of poisoning by the above mentioned antiseptics were not very satisfactory.

OBSERVATIONS ON INTESTINAL INVAGINATION IN CHILDREN.

H. Hirschsprung (*Archiv. f. Kinderheilk, 1896, xx, 3 and 4, 258*) has observed 64 cases of intestinal invagination in children during a term of 21 years. Of these 46 were boys and 18 girls. Sixty-four were under one year of age, nine under two years. Recovery took place in 38 cases—60 per cent. Of the 11 cases of invaginatio ileo-colica, not one recovered. The other 53 cases were invaginations of the large intestine (invagin. ileo-cœcalis and invag. coli). The kind most usually met with is the invag. ileo-cœcalis. The disease begins suddenly with pain and vomiting. There may be, perhaps, one more natural passage, but then frequent stools of mucus mixed with blood, without much tenesmus, succeed. Vomiting and pain usually cease within 24 to 36 hours, the child becomes somnolent, and it goes into a condition resembling shock. On the left side can be felt, usually without an anæsthetic, a large, thick swelling, which surrounds the navel, and whose convexity is towards the left. Sometimes the tumor can be felt through the rectum. Seldom is the swelling felt on the right side of the navel; the iliac fossa is always free. Invaginatio coli usually attacks children over one year of age. The complaint does not usually appear in perfectly healthy children. Diarrhœas may have preceded it. A disposition to constipation is frequently present. The disease itself begins suddenly, with severe pain. In one-half of the cases a symptom is referred to which is not met with in any other form of invagination—this is the *repeated passing of a clear mucus.* The tumor lies to the left, in accordance with the seat of the disease, in the descending colon, and the sigmoid flexure.

The invaginatio ilei and the invaginatio ileo-colica can not be distinguished clinically. The cases of H. all occurred in children under nine months. Invaginations of the small intestine usually come on suddenly. The discharges of bloody mucus are of less amount than in the invaginations of the large intestine. The swelling, in contrast to the latter, is difficult to discover, because it is rather small in invagination of the small intestine; and is usually to be found on the *right* side. Treatment depends on the differential diagnosis of the two conditions. In recent cases where the swelling is easily approached, it is proper to try reposition by the use of massage; sometimes this may be accomplished. If it prove unsuccessful, the child should be chloroformed, and enemata of water should be tried. One thousand to two thousand cc.m of water may be forced into the gut with moderate pressure. Whether reposition has been accomplished can only be told in a few hours, when fecal matter has found its way to the rectum, and the swelling has definitely disappeared. In the interval the child should receive a proper dose of opium.

If the enema has been of no service, which can be known by the persistence of the tumor, and the passing of bloody mucus in large quantity, after the evacuation of the water, the operation should certainly be repeated in a positive case of invagination of the colon.

In cases of invagination of the small intestine, an operation is at once indicated.

CONTRIBUTION TO THE CAUSATION AND THE STATISTICS OF PRIMARY TUMORS OF THE BLADDER IN CHILDHOOD.

Steinmetz (*Deutsche Zeitschr. f. Chirurgie, 1896, xxxix, 313–336*), in connection with a case of primary sarcoma of the urinary bladder, occurring in a boy 2¾ years of age, who was seen at the Münchener chirurgische universitaets clinic, and where also an autopsy was obtained, collates the published cases of primary tumors of the bladder up to the present time, which occurred in childhood. He was able to gather only 32 cases, including his own, thereby proving the rarity of the affection in early life. In 30 cases, where the sex was mentioned, 20 cases were males, and 10 females; so that also in childhood, as in adult life, the male sex seems to be prominently predisposed to this affection. As regards the age of the patients, children during the first five years of life are most frequently attacked. In 29 cases, where the ages were recorded, there were 23 cases during the first five years of life (including one newly-born) and only six cases between the 5th and 13th year.

All the tumors belonged to the class of connective tissue tumors. Fourteen (one case was a myosarcoma) were sarcomas. Thirteen are designated as myxoma, but the author, in conjunction with Albarran and Fennick, is inclined to believe that also these were probably sarcomata or myxosarcomata (most of these tumors having been diagnosticated according to their macroscopic appearance); so that the sarcoma must be looked upon as the predominating variety, found in the bladder of children. Besides these there are recorded, one fibromyoma, one cystofibroid, one rhabdomyoma, and two other tumors, which were not classified. In two of the cases there were present congenital deformities of the urinary organs, namely, one diverticulum of the bladder, and, in the author's case, one horse-shoe kidney. The seat of the tumors was electively the location at the neck of the bladder, and its lower third, through which may be explained why frequently dilatation of the ureters and hydronephrosis, with implication of the kidney (pyelonephritis) was observed. Quite frequently (as in the author's case) a part of the tumor protruded into the urethra, and in females through the urethra into the vulva. Of 26 cases only one presented a solid tumor; in one case there were two tumors, but in all others there presented more usually a great number. Nearly always cystitis and hypertrophy of the muscular wall of the bladder was present, which latter fact might be of diagnostic importance on bimanual examination of the empty bladder. Metastases are only mentioned in one case, a lymphatic gland of the size of a hazel nut being found at the lower end of the left ureter.

The course of the disease in the child differs in so far essentially from that of the adult, inasmuch as hematuria, which usually appears very early, is seldom found in the child (only four cases of hematuria are mentioned, in two of which it occurred at the very end, probably caused by the intense cystitis). More frequently the affection is announced in children by difficult urination,—strangury, anuria, symptoms of stone, pain in the bladder and glans penis, causing the patient often to continually pull at the organ. Prognosis, as a rule, is absolutely fatal. Within ten weeks to three months from the first symptoms death is induced by infection (cystitis, pyelonephritis) and uremia (hydronephrosis), in only one case, published by v. Linhart, the duration of the disease covered a period of two years. Operations were performed in 15 cases. One case only, operated on by Billroth and published by Gussenbauer, which proved to be a solitary pedunculated myosarcoma was successful. It may be that the prognosis in the future will become somewhat more encouraging, if an early diagnosis would lead to an earlier operation. It should be borne in mind, in this connection, that Albarran has often found a hematuria in tumors of the bladder which only could be recognized by a microscopical examination of the urine.

ON GONORRHŒA IN LITTLE GIRLS.

Cassel (*Archiv. f. Kinderheilk, xx, 3 and 4, 238*), made a close study of the pathogenesis of this disease in thirty little girls, who were suffering from a vulvo-vaginitis. The examination for gonococci were made according to Gram: staining with methylviolet, afterwards with Bismark-brown. It proved that no less than 24 of the patients were suffering from true gonorrhœa. The ages of the children were respectively, one year, seven months, another one year, six were two years, four from two to three years, six three years, one four and three-quarter years, one five years, three from six to seven years, one eight years and one eleven years of age. As regards the cause of the infection, in ten cases none could be found. In one case infection through a brother, 18 years of age, was probable; in one oxyuris vermicularis was given as the cause by the parents, however no parasite could be discovered. In three cases, the mothers of the girls were suffering from a puriform discharge. Of the single cases, only four are of etiological interest. In three the infection was due to the father—after the puerperum of the mother the children became infected. In a fourth case the infection came from the father direct. In four more cases, some other member of the household was the carrier—brother, bedfellow, sister (puella publica). As to the method of infection, it is probable that it was usually carried by soiled body linen, etc. The symptoms were always, discharge of greenish yellow pus from the genitals. In 19 cases pus could be squeezed out of the urethra and the vulva; only in three cases was the vulva covered with puriform membrane. The hymen was intact in all of the cases. The course of the disease ran variable. In a few cases the discharge ceased very slowly; in others it disappeared in a few days. Of other complications there were observed, two cases of connective tissue inflammation, which in both cases took a favorable course. Unfortunately treatment could only be carried to the end in eight cases, owing to the indolence and carelessness of of the patients.

Local treatment is usually difficult, because the anatomical conditions in the child do not permit of every kind of local application. Above all, the source of infection should be made inocuous, furthermore, absolutely clean under-clothing should be insisted on, the eyes are to be protected and the genitals frequently cleansed; which can be done by injecting medicated solutions into the vagina, by means of a rubber bulb syringe. The child should lie on its back, with extended legs, and a pillow under the sacrum during this procedure. Before using the injection the vulva is to be washed out with clean water. The liquid used for injecting may consist of a solution of corrosive sublimate (½ pro mille), later a nitrate of silver solution (1–1½ pro mille) may be used. In the six cases where the gonococci were absent, the clinical symptoms also were different. The discharge in these cases was a thin, greyish secretion. The treatment of this non-infectious inflammation is the same, only stronger astringents should be used.

BELLADONNA IN THE TREATMENT OF EPILEPSY.

FÉRÉ (*Centralbl. f. d. g. Therapie, 1896, xiv, 158*) has again given this drug, which had been already lauded by Debreym one hundred years ago, and since then by Trousseau, a trial. The latter administered it first in enuresis nocturna, and then tried it in epilepsy. He began by giving one pill (1 cgr. Extr. and 1 cgr. pulv. bellad.) three times a day, gradually increasing the dose every month up to toleration, and occasionally reaching the dose of 20 pills a day. In case of amelioration the doses were reduced in the same way, and, when possible, he discontinued the medication for a time. Trousseau and Pidoux recommend the use of the neutral sulphate or valerianate of atropia—(½ mgr. in children, 1–2 mgr. for adults). Hughling Jackson believes that the dose should be increased until dryness of the throat is experienced, and that the drug should be given in the evening, as he thinks it has an elective affinity for the nocturnal attacks. Pierret lauds maximum doses, of 8 cgr. for the vertigo and mental symptoms of epilepsy.

Féré orders the belladonna in the form of an extract in pills, the dose being 2 cgr., and increases it every 3–4 weeks only. He was able to reach the enormous dose of 76–80 cgr. by this plan. He observed, though, that intolerance may be suddenly established by any great excitement. This treatment, which was employed in patients who had been refractory to other remedies, has only been of temporary benefit. Out of 24 individuals who took daily doses of 12–25 cgr., seven were benefitted slightly; only in one case was the result a thoroughly satisfactory one. This patient was subject to irresistible impulses, and exceedingly numerous attacks of vertigo (344 in a month). From January, 1893, to the end of July, 1893, he took a daily dose of 8–20 cgr. of extract of belladonna, and then had only about 195 attacks of vertigo a month. From August, 1893, to the end of April, 1894, during which time he took 20–30 cgr., the attacks were reduced to 26 a month. During the month of April, he had only four attacks, and since then only slight aura. The patient is still taking 30 cgr. a month.

TUBERCULOSIS IN EARLY INFANCY.

H. Kossel (*Der Kinderarzt, 1896, VII, 19*) had the opportunity of observing 22 children, of the ages of two months to three years, during their illness with tuberculosis. All of these cases ended fatally. There was also found in 14 children, who died from other causes, at the ages from one and one half to 10 years, on autopsy, tubercular foci situated in 10 cases in the bronchial glands, and in one case involving the mesenteric glands, which had not manifested any symptoms during life. Amongst the anatomical findings in these cases, the changes in the respiratory tract and its lymphatics, were undoubtedly the foremost, and in second line those of the digestive tract. The latter were found to be primary tuberculosis; in one child, 8 months old, was found a tubercular ulcer of the ileum, and a tubercular infection of the mesenteric glands.

The observations made in numerous cases of extensive tubercular processes in infants only a few months old, seems to permit the question, whether an infection with tubercle bacilli may not have been possible during intrauterine life. This question is not only of scientific interest, but also of great practical importance.

The author thinks it noteworthy, as militating against infection before birth, that he never found older tubercular foci in the liver into whose circulation all germs that are being carried say by the veins of the navel, must pass first. Moreover, these foci were always found in the lungs, or in those glandular environments whose main roots were nearest in connection with the outer world—i. e. the bronchial glands, or mesenteric glands. The author comes to the conclusion that in tuberculosis of early infancy, at least, we have to admit an infection with the disease germ, in the first few months following birth, by contact. It is quite obvious that infants whose parents expectorate the infectious germs of tuberculosis in large quantities, are very likely to admit tubercle bacilli by way of the respiratory system, or the digestive organs, into the economy. In course of the investigation the sad discovery was made, that among the children from one to ten years of age, who were sent to the institution (usually for diphtheria), 40 per cent. were suffering from latent tuberculosis. Does it not seem about time, says the author, to follow the lead of the Americans, and employ practical measures against the spread of tuberculosis.

INFLUENZA IN CHILDHOOD.

A. SCHLOSSMANN (*Allg. medic. central ztg., lxiv, 1033*). Although the infant possesses a certain power of resistance against this disease, as well as against the contraction of other infectious disorders, there is no immunity for any period of life. The youngest patient seen was 21 days old, it, as well as its mother, was suffering from this disease. Much more frequently children during the second half of their first year of life were attacked, and no seeming difference exists in their liability to its contraction between this time and later years.

The younger the child the greater the difference of the symptoms from those considered characteristic in the adult. While the so called gastric form of influenza marks the exception to the rule in later years, and alterations in the mucous membrane of the respiratory tract take a more active form, in the young infant the main symptoms relate to the gastro-intestinal canal. The advent of the disease in young infants might be called explosive, without any prodromal state, or catarrhal antecedants. The illness begins with all the signs of a heavy infection, with rapidly rising temperature, even with chills, vomiting, delirium and convulsions. An exceeding prostration is established at once, not at all in proportion to the duration and height of the fever, but very characteristic of the disease under consideration. Changes in the lung tissue could not be demonstrated in most cases. Besides fever, which may rise to the height of 40.5 C on the first day there is anorexia, and as a typical initial symptom, great constipation of a few days duration. A coated tongue, and reddened pharynx usually completes the picture of these cases. A characteristic symptom is the redening of the pharynx, which is not present in those cases we are used to classify under the name of gastric fever. The diagnosis is to be made from the sudden epidemic appearance of these symptoms, while a great number of cases of catarrhal influenza are found in older children. Besides, a causal relationship of the disease can frequently be proven, the adults as well as the children of one family being stricken at the same time, the former with the usual restriction of the local symptoms to the respiratory organs, while the latter are more subject to gastric symptoms. It has also frequently been observed that a seemingly simple coryza (an influenza) was carried over by the adult to the child, and produced in the latter a severe general infection. Another diagnostic point between the simple gastric disorders and those due to influenza, are the accompanying pains in the limbs, which are recognized by the crying of the child whenever it is moved or picked up.

Particularly is any pressure on the epiphysis of the long bones resented with marked exhibition of discomfort.

The obstinate constipation, which is an initial symptom, gives place to a diarrhœal state on the third day, even though no cathartics be given, which may last a longer or shorter time, with exacerbations and remissions. The stools are frequently very fœtid and mixed with shreds of mucus. Author is inclined to the belief that this diarrhœa is the result of toxin poisoning, that it is produced by the influenza bacilli, which primarily attacks the pharynx, where they produce the inflammatory redness alluded to previously. In most cases the fever soon disappears, and rapid convalescence is the rule. In others the gastric symptoms may continue for some time in the form of a more or less profuse diarrhœa, and the whole attack may cover a longer period, with continuance of the fever. If at the same time an enlargement of the spleen is also present, the idea of typhoid fever may easily occur to one. In these cases we have a pretty positive differential mark; the diazo-reaction of the urine, which, being very characteristic in typhoid fever, is absent in influenza. We may sometimes, on shaking the urine with the well-known re-agents, get a red color of the foam, but it does not show the daily deepening of the color, which is found in the early stage of typhoid fever. Next to typhoid, scarlet fever had often to be differentiated, as there occurred an eruption in 12 per cent. of the cases, which sometimes rapidly disappeared, at others remained permanent for a while. These exanthemata were frequently similar to the eruption of scarlatina, at other times they resembled miliaria. The face usually remained free, but the rest of the body may be covered? The symptom complex was occasionally so similar to scarlet fever, that the patient was treated as regards isolation and disinfection as though he had scarlet fever, until the course of the disease established its character. A symptom, based on the infection of the pharynx, seemed to be helpful in differentiating the two diseases. The throat, in case of scarlet fever, is usually of a deep scarlet color, when the eruption is at its height, or there are already deposits present on the mucous membrane of the throat; at the same time the neighboring glands become enlarged. All these symptoms are absent in influenza, and the redness of the throat will be found more diffuse and less intense.

When brain symptoms are very prominent—influenza may also simulate diseases of the meninges. In the case of a boy, there developed uncontrollable vomiting, severe headache, a degree of opisthotonos and irregularity of the pulse and respiration, with a rapid and alarming failure of strength that called for energetic stimulation. The boy developed a form of psychosis, which occasionally rose to mania, from which he suffered for three weeks. It is very easy to imagine in such cases that some hemorrhagic process has taken place in the brain, as was proved, post-mortem, in a number of cases ending fatally, by Kranhals and others. Another deep impression on the nervous system could be frequently demonstrated in the heart action, which showed, under sphygmographic tracings, irregularities, and often the greatest arythmia, as are usually only seen, as a rule, in diphtheria.

The complications involving the kidneys are of some importance. In eight per cent. there was albuminuria of different degrees and duration. In three per cent. it was severe, and accompanied by casts, usually much cylindrical epithelium and quite some epithelial débris in the stage of fatty degeneration. The number of blood corpuscles was small.

As regards the condition of the joints, there was severe pain and swelling of the shoulder and elbow-joint, the left arm and then the knee joint, in one case. Retrocession was rapid and spontaneous. Pain alone, without any changes in the joints, is a part of the history of this disease. The lungs, which are usually affected in the adult, seem to remain altogether free from any inflammatory process in young children, in others, a bronchitis occasionally followed the gastric symptoms, in which frequently slight spots of consolidation could be diagnosed by means of auscultation, and the duration of the fever. In three cases a pneumonia of considerable extension, with effusion into the pleura was observed; but it was not possible to demonstrate any micro-organism in the fluid through culture. The prognosis in influenza of children was considered much better than in old people.

PEDIATRICS

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Original Articles.

SYPHILIS IN THE YOUNG.

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IT would be hard to overestimate the importance of syphilis not only as a disease having marked lesions of its own, but also as a complication of other diseases. In the adult its presence is easily recognized, as a rule, and its treatment is satisfactory. In the infant, however, it is so fatal and its lesions so different from those of the acquired form that it deserves somewhat closer study than it usually receives.

There are many interesting problems which arise from this protean malady, and it is hard to say why the hereditary form of syphilis should produce manifestations so different from the acquired form. And with all our microscopes and bacteriological paraphernalia we cannot find the germ which doubtless is responsible for this wide spread disease, nor can we locate its whereabouts in the long intervals when the patient is apparently perfectly well.

It is often necessary to make a diagnosis when no help can be obtained from the family history. If the mother or father present unmistakable evidence of syphilis we can usually diagnose a suspicious symptom in the infant as syphilitic, though it would manifestly be unscientific to lay all the baby's derangements to an unfortunate family taint. In the majority of instances syphilis can be diagnosed in the infant by the symptoms and by these alone, and it is to these symptoms that I wish to call your attention.

Children of syphilitic parents may be born with all grades of intensity of infection, from the macerated product of conception to the well-developed, healthy looking infant, which may show no signs of its inheritance until some months later. It is claimed by some syphilographers that the first lesions of inherited syphilis may be retarded and appear only in adult life. We may divide the lesions into those which appear early and those which appear late (from second dentition to puberty).

The lesions of acquired syphilis present the same phenomena in infancy that they do in adults and will not be further alluded to.

The skin and mucous membrane lesions are the most noticeable of the earlier manifestations, though not always the earliest nor the most important from the standpoint of prognosis. The syphilitic infant is usually badly nourished and presents the facial expression of a dried up old man. This senile appearance is very suggestive, especially if there is present that peculiar tinge to the complexion known as the *café-au-lait*, or muddy color. This is more marked upon the face than elsewhere and is, therefore, the more noticeable.

The dermal lesions vary from a slight and transient erythema to bullæ, filled with purulent matter. The circumscribed roseolous spots are often mistaken for non-syphilitic erythema, but the imperfect disappearance of the color, together with its coppery hue, will usually be sufficient for correct diagnosis.

The infant is not so apt to have papular and squamous eruptions as the adult on account of the delicacy and the moistness of the child's skin; the tendency is toward mucous patches which are never found upon the adult skin. Occasionally, however, they do present a true syphilitic psoriasis.

Of the pustular lesions syphilitic ecthyma is the most important, as it indicates a profound infection and the ulceration is liable to produce irreparable injury. Diday asserts that the non-syphilitic ecthymous pustule occurs only in adults and therefore the presence of ecthyma in the infant is almost certainly due to syphilis.

Syphilitic pemphigus is the most serious of the skin lesions as it is almost always fatal. It has been asserted that this pemphigus was not a true syphilitic lesion; that the cases reported were instances of the superposition of pemphigus on a syphilitic constitution; but the nature and appearance of the lesion, their occurrence on the palmar and plantar surfaces, the age, the non-recurrence of the bullæ, all point to syphilis as the foundation of the trouble.

Mucous patches are found not only upon the mucous membrane, but also upon the skin, especially where it is thin and moist and in contact with other parts. Here they arise from the maceration of the papular eruption. They may be found upon the palms of the hand and soles of the feet. Even where there is no definite lesion upon these surfaces, they often present a shiny appearance, which is sufficient to put us on guard. Mucous patches upon the skin have a whitish surface, with small superficial erosions and a serous effusion; the softer the texture of the surface the greater the erosion and the effusion. They may be found in any part of the mouth, but principally upon the mucous membrane of the lips and cheeks and sides of the tongue. At the corners of the mouth may be found superficial ulcerations, which make the mouth look larger than natural. Frequently papules arise at the angles of the mouth and become split in the middle, forming fissures or rhagades. These are fine lines which radiate and are permanent, thus being of great diagnostic aid after the pronounced lesions have disappeared.

Rhagades of the tongue in infancy are said to be pathognomonic of inherited syphilis. Condylomata about the anus may be looked upon as similar lesions. Mucous patches, of course, occur frequently in the mouth or about the genitalia. In the mouth they are not always easily seen nor recognized. It is thought that the peculiar hoarse whine of the syphilitic infant is probably due to mucous patches invading the larynx. Owing to the difficulty of the examination, it is not known whether snuffles are due to mucous patches in the nose or a specific inflammation of the membrane. Syphilitic coryza is one of the earliest of the morbid phenomena and is important from its influence on the nutrition of the child. It first manifests itself by a profuse acrid watery discharge from the nose, later becoming purulent. The upper lip becomes excoriated. In the efforts to breathe through the nose the discharge is dried up and crusts are formed which are very large and tenacious and frequently block up the passage so that the infant has to breathe through its mouth, thus seriously interfering with lactation. The posterior nares of the babe are very small and are easily occluded by any tumefaction or congestion. Prof. Rotch records the death of an infant from this very cause and doubtless others have had the same experience.

In addition to the mechanical disturbance, the inhalations of the fetid odors arising from the decomposition, not only of the crusts and mucous membrane, but of the bone beneath, which often becomes carious, and the absorption of the pus by the open lymphatics, certainly affect seriously the chances for the recovery of the patient. It is very necessary to recognize early the syphilitic character of this coryza. Fortunately simple rhinitis is very rare in such young children and when it does occur runs a rapid course and soon undergoes resolution, never becoming absolutely purulent; whereas syphilitic coryza is very slow and soon becomes decidedly purulent. Purulent rhinitis never occurs before the third year and is not characterized by any notable stenosis, according to Bosworth.

En passant, these morbid processes usually yield very readily to constitutional treatment. Where the superficial lesions require treatment, the application of dry powders containing calomel will usually prove efficient. For the coryza, the local use of oil and keeping the nares cleaned of the crusts as thoroughly as possible have usually been all that was necessary. In great occlusion of the nares, the local use of very dilute solutions of silver nitrate on long camel's hair brushes has given great relief.

Alopecia occurs very frequently as a result either of the dermal lesions or of the condition of malnutrition into which the child usually falls. The loss of eyebrows and eyelashes offers very strong evidence of syphilis.

Onychia may occur in either the early or retarded forms, and is more frequent than in the adult, while the opposite is true of the enlargement of lymph glands.

Syphilitic iritis is among the rarest of the early symptoms, but its immense importance to the child's future requires us to give it our closest attention and earliest recognition.

The lesions of the bones are among the most constant with which we have to do. Some writers claim that syphilis cannot be diagnosed in the fetus unless the bone lesions are present. It is a form of osteo-chondritis which is found in syphilis. It is in the cartilaginous portion of the bone between the diaphysis and the epiphysis that the inflammation is usually found. The tumors arise abruptly from the bone, are small and ring-shaped and without the tenderness found in rhachitis. Sometimes the inflammation involves the whole epiphysis; sometimes there is a true periostitis; sometimes the epiphysis is separated from the diaphysis and we find a form of pseudo-syphilitic infantile paralysis. If the phalanges of the fingers or toes are inflammed we have the syphilitic dactylitis which cannot be differentiated from the tubercular form except by the presence of other symptoms.

Cranio-tabes, softening of portions of the skull, occurs in rhachitis especially when complicated by syphilis. The restlessness at night and insomnia are probably closely related to the nocturnal pains from which adults suffer so severely.

Visceral Lesions.—In addition to these more easily observed lesions, there are a number of morbid processes which take place in the internal organs which are frequently unrecognized. Diffuse interstitial hyperplasia is the form of pathological tissue change that is found in hereditary syphilis. The enlarged and hardened liver is probably the cause of the umbilical hemorrhage which occurs occasionally, but is not readily diagnosed. The enlargement of the spleen is of decided prognostic assistance, as it measures the degree of anemia and the amount of syphilitic intoxication. It measures the improvement in case we are using the proper treatment. The same interstitial changes in the kidney explain the albuminuria sometimes met with, while the damaged state of the pancreas, stomach, and intestinal glands offers an explanation of the failure so often experienced in treating these cases.

Brain and meningeal symptoms are more common in the retarded form, but hydrocephalus, with the enlarged veins coursing over the skull, has been observed several times in my clinic, and shown to be syphilitic by the results of treatment.

The treatment of syphilis in this stage is summed up in the one drug, mercury, and the preferable mode of medication is by inunction of the officinal ointment diluted, or the oleate diluted. This drug applied on the belly-band of the child and worn constantly will produce less harm than when applied by other methods. If it gives rise to a local irritation, the application may be shifted to some other part of the body.

Of the preparations for internal use, the hydrargyrum cum creta, in doses of one grain three times a day, is least liable to upset the stomach and bowels. Almost all the early lesions of syphilis are markedly and rapidly benefitted by this treatment, which should be continued until the symptoms have entirely disappeared. Grave lesions of the internal organs will naturally be rebellious to any form of treatment.

After the relief of the symptoms the child should be watched carefully, and be put through a mercurial course at varying intervals. The question may arise as to whether children born of syphilitic parents should be put under treatment immediately after birth, or should be watched closely until the development of some specific lesion and then treated. Fournier's advice seems to be the most sensible: If the child is born healthy, in appearance at least—of a woman recently syphilitic, especially if she has had any venereal accidents in the course of her pregnancy, should be put under active treatment immediately, for it is certainly syphilitic; otherwise we may wait for some definite manifestation.

The retarded form of hereditary syphilis is much more difficult to diagnose. As it corresponds to the tertiary lesions, it is probable that in every case there have been early lesions which have been overlooked. The retarded lesions are mainly those of the bones, eyes, ears, and nervous system. They may be expected to develop at the two prominent periods of life, second dentition and puberty. There is a lack of development in these cases; the reproductive functions develop very late, the intelligence is much retarded. Fournier has given the suggestive name Infantilism to this condition. This may exist without any deformity. More frequently there is malformation of the skull; either an unnatural prominence or perpendicularity of the forehead, the boat keel shape, or the natiform skull of Parrot.

If there has been any disease of the nasal septum, we find the characteristic nasal flattening. Frequently there is a deformity of the nose not due to any actual disease there, but to the general incomplete development.

The teeth present the most reliable diagnostic feature, first described by Hutchinson. The central upper incisors are smaller than they should be. The lines of the sides of the teeth, instead of being parallel or diverging, converge and the apices are hallowed out, exposing the dentine. There seems to be a deformity of the premaxillary bone. The Hutchinsonian teeth are nearly always accompanied by interstitial keratitis.

The bones are sometimes much thickened, and the tibiæ especially may look like they are curved, owing to the local enlargements. Osteo-periostitis of the long bones, especially of the tibiæ, is very common, and may be multiple, when it is usually symmetrical. Pain in the bones, exacerbating at night may be found without any gross lesion, though it frequently proves to be periosteal.

Interstitial keratitis consists of a cloudiness of the cornea which begins usually in spots and by their coalescence covers the cornea, so that it looks like ground glass. There is ciliary congestion and some pain and photophobia. The disease is usually symmetrical though some time may elapse between the involvement of both eyes. After a variable duration of six to eighteen months the cornea usually clears up almost perfectly, though it may leave opacities which interfere with perfect vision.

De Schweinitz states there often remains a permanent peculiar arrangement of the blood vessels in the cornea which is diagnostic. There are a number of rarer ocular troubles having the same etiology.

The ear troubles are not so frequent as those of the eye. Usually deafness comes on abruptly, without any determinate lesions to account for it, increases rapidly in intensity, and is utterly unimproved by treatment.

The nervous lesions are the most obscure, and just as in the acquired form are most apt to develop in those cases which have shown few or none of the early symptoms. Syphilitic gummata are among the rarest of the cerebral tumors, and would not be differentiated from other varieties of tumors unless they were multiple, when the general indefiniteness of the lesions might put one on guard.

Syphilitic meningitis is frequently confounded with tubercular meningitis. In all cases of meningitis close attention should be given to the possible presence of syphilis, for the prognosis in such cases, under proper treatment, is so much the more hopeful. The prodromal symptoms are headache, persistent or intermittent, drowsiness and dizziness. In infants there is wakefulness and convulsions.

H. C. Wood says: "A general indefiniteness of symptoms and slowness of progression should arouse suspicion, especially if the absence of pulse-retardation or the presence of any characteristic symptoms indicate that the vault rather than the base of the cranium is involved."

The fever in syphilitic meningitis runs a much lower course, there are not the vaso-motor disturbances in the face, nor are there the slow or intermittent pulse and the irregular respiration with high fever met with in the tubercular meningitis.

Chorea, epilepsy, and various spinal paralyses have been traced to syphilitic infection, but the connection is too obscure in most cases.

The treatment of the delayed forms of hereditary syphilis is with the iodides in large doses. In the nervous lesions it is particularly rapid and satisfactory in its action.

(See page 396 for discussion.)

PRINCESS PAULINA.

By J. Darwin Nagel, M.D.,
New York.

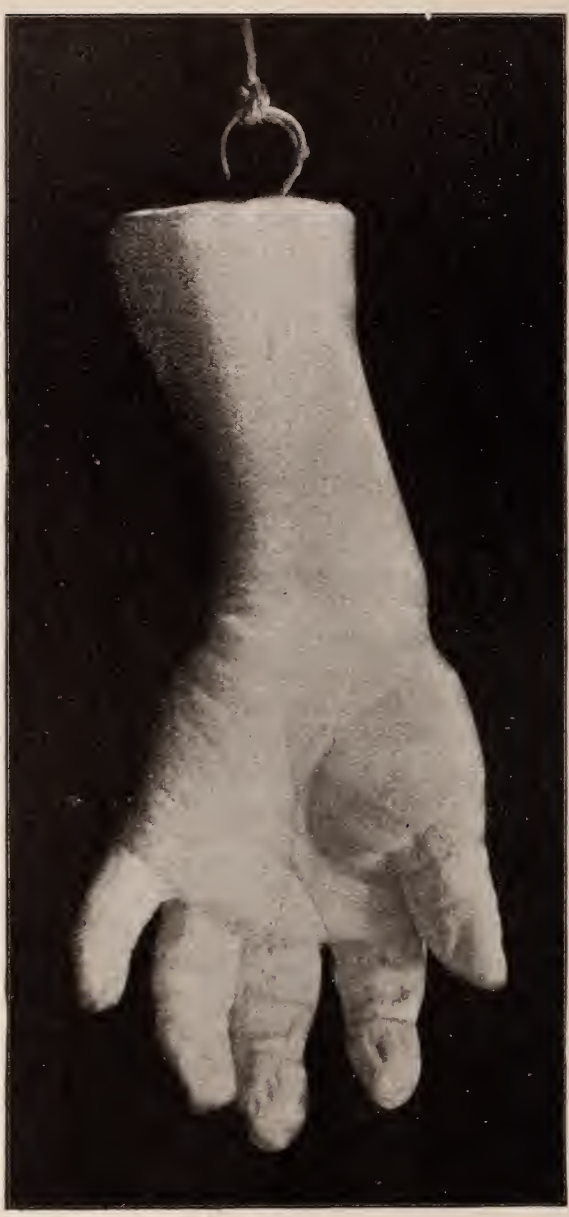
IT is not often that the general practitioner is called to attend a patient, who, though having reached her nineteenth year, measures only nineteen inches in her stocking feet. During the winter of 1895 it was my fortune to come in contact with one of the most wonderful atoms of humanity ever created, namely, little Paulina Musters, generally called Princess Paulina. This little being was born on the 26th day of Feb., 1876, at Ossenrecht, Holland. She was the seventh child of a family of twelve. Her father and mother, still living, are a robust couple, rather above the average height as are also her six sisters and two brothers, all of whom are still living.

On the day of her birth she was said to have measured only twelve inches, so in eighteen years she only gained seven inches.

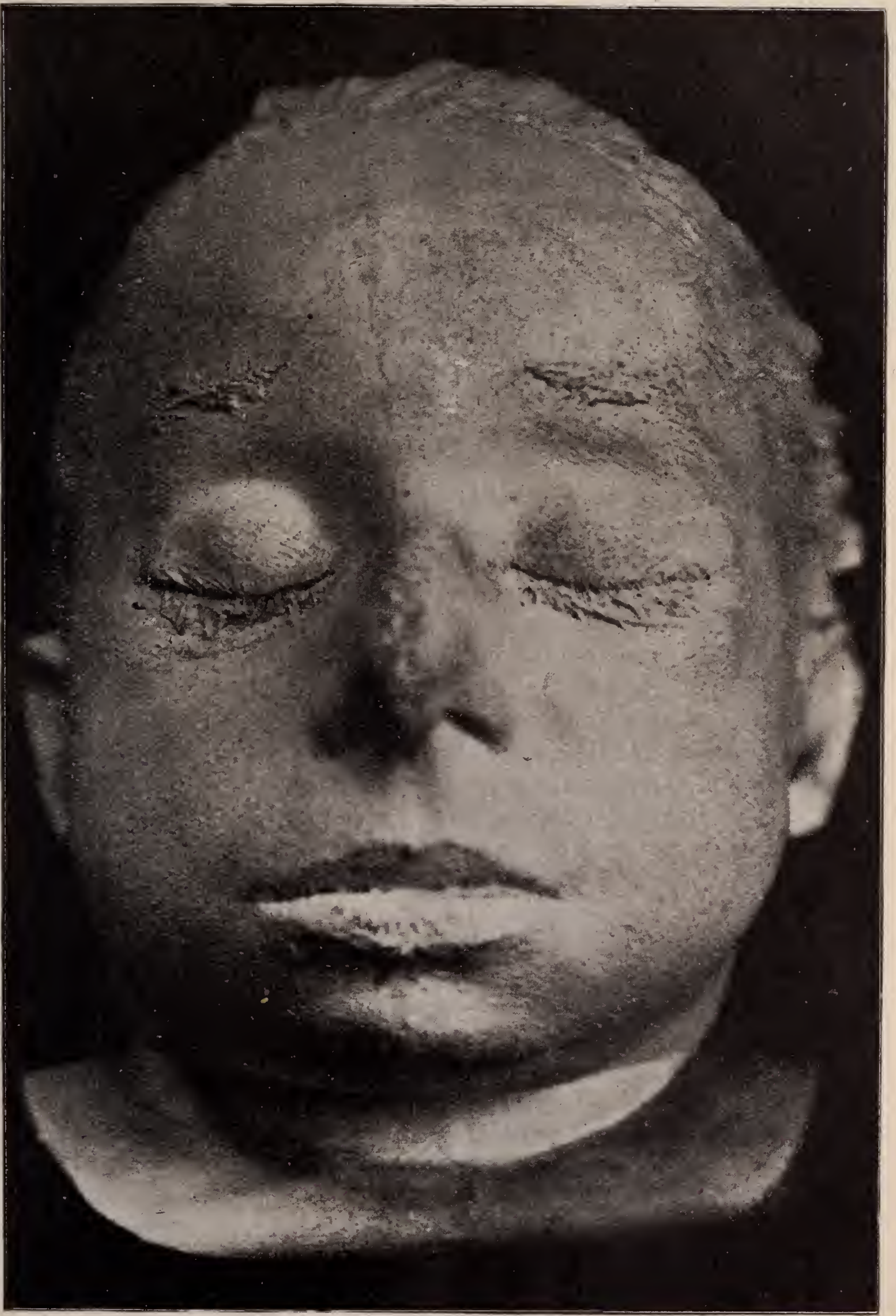
Her weight in normal health was from seven and one-half to nine pounds. The majority of midgets, which have hitherto been examined by medical men, are imperfectly formed, repulsive, or wanting in intelligence; but I must say that in this case this tiniest of women was nearly perfect in bodily development, of rather pleasant features, graceful in all her motions, of a good general education, speaking four languages—her native Dutch, French, German, and a little English.

Before being taken ill she was said to have been in perfectly good health and free from physical defects of every kind. Her friends assured me that she always had a good digestion, and the lady with whom she boarded confirmed this statement by saying that the little phenomenon ate her four meals a day.

Paulina Musters began to menstruate at the age of sixteen, and from that time on had regularly menstruated every twenty-eight days, her menstrual period lasting three days, being normal in color and quantity. On examination I found her body, though diminutive in size, to give all the characteristics of a fully developed woman. The breasts were round and prominent, and the pubes and mons veneris covered with hair.



Hand of Princess Paulina. Full Size.
From Plaster Cast.



Death Mask of Princess Paulina. Full Size.

The illness for which I was called to attend her had taken its origin from a simple cold which she contracted during one of her exhibitions, which she daily gave on the stage of a local theatre. Ever since the days of her earliest childhood she had been in the habit of appearing in public at theatres, and reciting her various accomplishments and the history of her early life. She would perform all sorts of acrobatic feats, such as walking on her tiny hands, balancing her body on one hand, and dancing and lifting weights heavier than the weight of her own body. The salary which she received for these performances enriched her family while the innate vitality of her organism was naturally lowered by these constant exposures.

Her friends who were traveling with her, sought to improve her energies and replenish her exhausted vitality by means of stimulants which they administered to this prodigy after each performance. It was astonishing to see what quantities of alcoholic beverages this little midget could absorb. Though not so choice about the quality, she could consume considerable quantity of anything that tasted of liquor, her favorite beverage being champagne. It is only natural that as soon as serious illness attacked her her heart should have become considerably weakened, both from the excitement of her profession and from the quantity of alcohol that she was in the habit of taking. Her cold developed into bronchitis, the bronchitis into pneumonia, which subsequently was complicated with meningitis, and after a ten days' illness caused the death of the little woman. During her illness and before the development of meningitis she was perfectly rational, and though her temperature varied from 102° to 104° F., she did not complain as long as her sister fondled, or held her in her arms like a little babe.

The chief difficulty I encountered at first was regarding the dosage of medicines which I should administer. It is true that though a fully developed woman she was bodily of the stature of an infant. I at first prescribed mixtures which were customarily administered to children in these diseases, but I subsequently had to increase them in strength to the adult dose because that was the only way in which I could receive the full benefit of the drug. She bravely fought death, and might eventually have recovered, were it not for her heart which had become considerably weakened from previous alcoholic excesses. Her death came suddenly in spite of all heart stimulants which were administered after consultation with the late Dr. Frederick M. Warner.

After her death it was with the greatest difficulty that I received her sister's permission to take the cast of her head and arm.

I also took measurements of her body and found the following, although I must state that after prolonged illness and death her body had become considerably elongated :

Length of her body, 24 inches;
Length of arm to tip of fingers, 12 inches;
Length of leg from hip to tip of toe, 12 inches;
Circumference of head, 16 inches;
Length from chin to forehead, 5½ inches;
Length from chin to ear, 3½ inches;
Circumference of chest across the breasts, 8½ inches;
Higher up under the axilla, 19 inches;
Circumference of abdomen, 19 inches;
Around the hips, 18 inches;
Across the waist, 17 inches;
Length of foot, 4 inches;
Length of hand, 3½ inches;
From shoulder to shoulder in front, 7½ inches;
Circumference of thigh, 7 inches;
Of knee, 6 inches;
Of calf, 4½ inches.

INFANTILE SCORBUTUS.

With Report of Three Cases by Stewart L. McCurdy, A.M., M.D.,
Pittsburgh, Pa.

Professor of Anatomy and Surgery, Pittsburg Dental College; Orthopedic Surgeon to Presbyterian Hospital; Member of the American Orthopedic Association, etc.

It was my privilege to have under treatment during the past summer three cases of Infantile Scorbutus.

From a summary of cases thus far reported, with the histories given, we must conclude that it is an acute disease due to malnutrition, the external evidences of which are found in fretfulness, fever, emaciation, bone lesions, etc.

That the general profession does not understand this condition is quite evident from the fact that attention has been but recently called to it. Many who have read these reports insist that it is nothing more than early rachitical manifestations. In Germany the condition has been known for some years as acute rickets, and similar reference had been made to it in England previous to the Barlow lectures.

Causes.—Malnutrition is the cause *per se.* The demands made by the system appeal to the intellect of adults and children, but infants are compelled to live on what it pleases the parents and nurses to order for them. When the system is praying for albuminoids and fruit juices, milk (generally impure), crackers and potatoes are given.

Flint has said and wisely, that to diet a healthy stomach was to create a dyspeptic. An extensive and general menu cannot well be written for patients because food that may agree with one may disagree with another.

The sea biscuit scurvy of sailors, the hard tack and rusty bacon scurvy of soldiers, are only manifestations of an unsystematic supply of food.

So far as I know no case of scurvy has been reported in an infant nourished at the breast of its mother. Artificially fed infants are never perfectly nourished. It is difficult to select for an infant deprived of its mother's milk the artificial food which will agree with it. In fact it is not unusual to try many kinds before one is found acceptable to the patient, and a food upon which an infant appears to thrive in the beginning may become very disagreeable after continuous use.

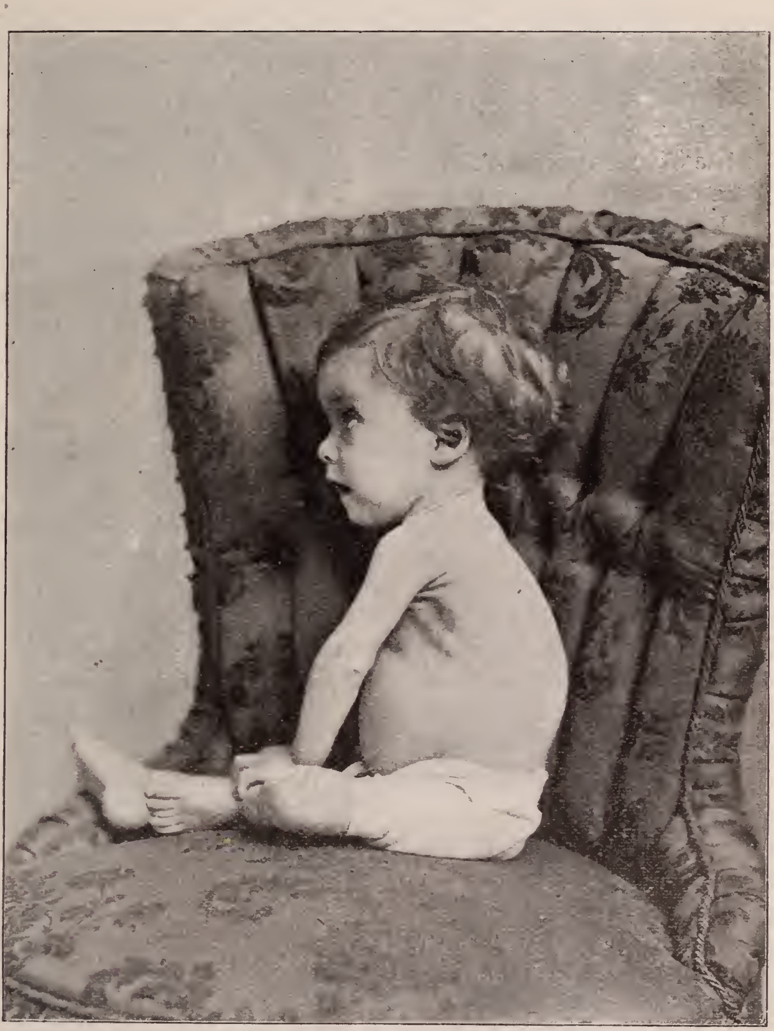


Fig. 1.

Experience has further demonstrated that sterilized milk, or Pasteurized milk, does not always agree with artificially fed infants.

The following, which appeared in the *Munchener Med. Woch.*, 1895, No. 42, may be quoted: "Stark points out the danger of scorbutus following a prolonged use of highly sterile milk. He calls attention to the fact that the presence of certain kinds of bacteria in the milk is not harmful, as even breastmilk is not always free from bacteria. He would limit the use of sterilized milk to seasons of very hot weather and to the dwellings of the poor."

Rickets is most frequently found among the poorer classes; and in this country especially among the negroes and the poor foreign element. The reverse is almost always true with scurvy in infants. While we see rickets in hovels and alleys, scurvy is most frequently found among the children of prosperous people.

Description.—I desire to quote from Dr. Taylor's paper as follows (*Transactions American Orthopedic Association, 1894, pages 129-130*): "In the more advanced cases we have pain, edema, and paralysis of the lower extremities, often constipation, occasionally diarrhea due to intestinal irritation, anxious expression, wrinkling of the transverse *rugæ* of the forehead, dilation of the superficial vein is generally present, especially over the abdomen, even to a marked *caput medusæ*.

"Bleeding gums are not found as a rule before dentition, and it is only after teething is well advanced that this symptom is to be found. Dentition is always tardy."

From a recent contribution from the pen of Dr. Barlow I quote as follows:

"The most striking and constant pathological finding is a subperiosteal hemorrhage that may affect any or all of the bones of the body. Osteoporosis, fractures in the neighborhood of the epiphyses, deformities due to these changes, and to the development about the upraised periosteum of a bone-like material, were common occurrences.

"A hemorrhage beneath the periosteum of the lower orbital wall produces in some instances a protrusion of the eyeball downward and outward. Hemorrhages into the muscles and into the bone marrow were met with.

"Clinically, scurvy is met with in artificially fed children,

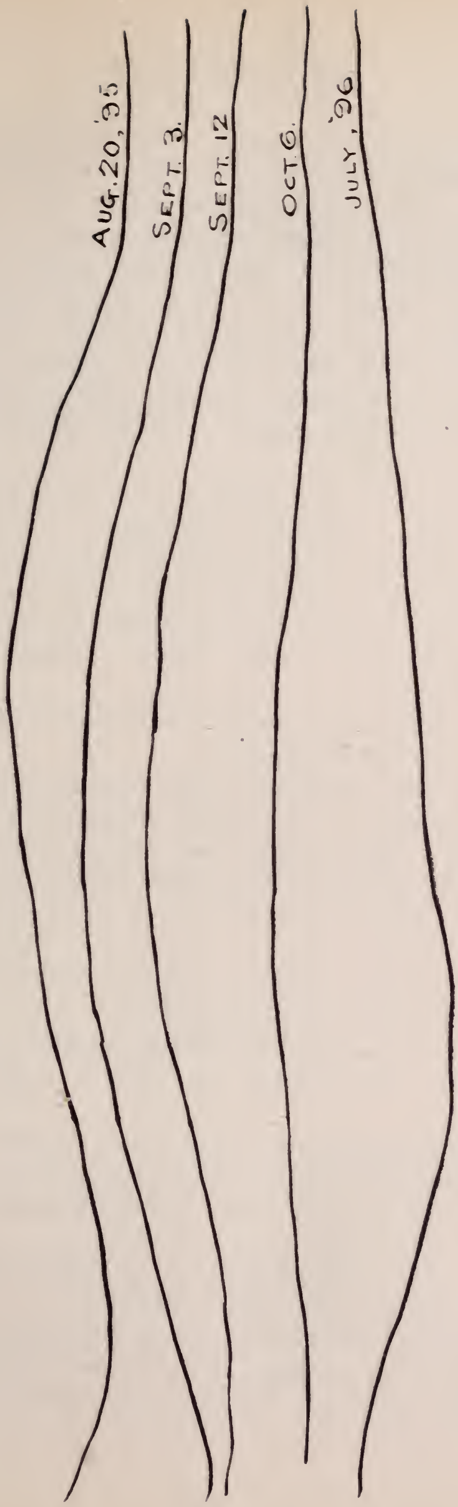


Fig. 2.

particularly the rachitic, usually before the age of two years. The subperiosteal hemorrhages produce swellings of the diaphysis of the long bones beginning in the lower extremities; Intra-muscular hemorrhages can often be made out; occasionally there is hematuria, or subcutaneous extravasation; there is rarely any redness of the skin, which, though tightly stretched, fails to show local edema; a paretic or pseudo-paralytic condition of the limbs develops. Anemia seems to be proportionate to the number of bones affected and the extent of the hemorrhage; the gums in children with teeth may be affected."

The author denies any connection of this peculiar disease with rheumatism, syphilis, hemophilia, or purpura hemorrhagica. He admits that most children thus affected are also rachitic. He believes the disease is a form of scurvy because:

1. It occurs in poorly and artificially fed children.
2. Proper diet and anti-scorbutic treatment result in rapid improvement.
3. Hemorrhages into muscles and beneath the periosteum are common in scurvy in adults.
4. In the cases where scurvy has been excluded because of the non-involvement of the gums, the gums have generally been toothless. Where teeth have been present the scorbutic changes in the gums have been found. Even in the toothless aged, well marked scurvy without gum involvement is met with.

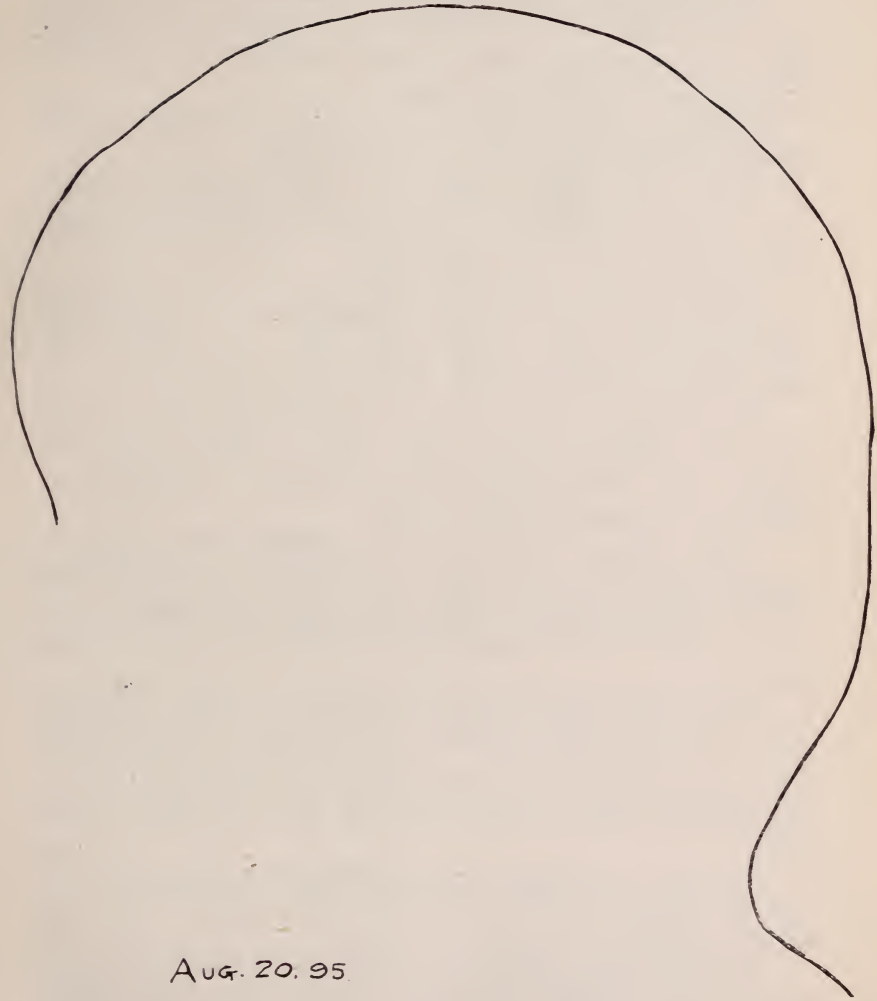
Barlow concludes that the affection is not, as the Germans have contended, an acute rachitis.

Treatment is followed by brilliant results. The giving of milk, beef-tea, fruit juices, etc., usually results in a rapid cure.

Differential diagnosis.—Scurvy may be taken for Pott's disease, rheumatism, stomatitis, rickets, sarcoma, osteitis of the extremities; infantile spinal paralysis, cholera infantum, etc.

In scurvy the restlessness is very prominent and in rickets it is never found as a prominent symptom.

Deformities.—The most frequent deformity is antero-posterior curvature of the spine, which is not infrequently mistaken for Pott's disease. In occasional cases the curve may be lateral.



Aug. 20. 95

Fig. 3.

The rigidity found in true Pott's disease is not present in scurvy. After a few days' recumbency the curvature disappears.

Enlargement of the sternal end of the clavicle, ends of the long bones, especially of the malleoli and lower end of radius and ulna is generally present. Enlargement of the costal end of the ribs or "beading" is usual.

Bulging of forehead and an abnormally large head is not infrequent, as shown in case 3. See tracings.

Case 1, B., aged 8 months, had been suffering for about three months with high fever, emaciation, fretfulness, edema, and paralysis of the lower extremities.

The case was presented for examination for curvature of the spine with a view to the adjustment of a brace. The condition of the spine can be seen in Fig. 1 as well as the beading of the ribs, the box head and the "pot belly."

The enlargement of the sternal end of the clavicle, both ends of the fibula, and the lower end of the radii was well marked. The fever ranged from 100° to 102°. Marked constipation, with clay scybala, existed.

Caput medusa encircling the umbilicus and covering a greater portion of the abdomen was a marked condition. The mother or nurse was up twenty to twenty-five times during every night, and constant attention was demanded by the child.

The patient had been taking Pasteurized milk, condensed milk of various brands, and the milk powders. In this case it was not so much the fault of the milk as it was the lack of certain elements which made it fall so far short of being a perfect food.

Treatment.—Orange juice, Pasteurized milk, castor oil inunctions over abdomen for constipation, and plenty of cold water to drink.

To briefly summarize the treatment in this case, I may say that every variety of artificial food was used, and orange and meat juices in varying quantities were prescribed. The patient would improve and then retrograde, but on the whole made a gradual improvement. In a month the patient was markedly better and in three months was practically well. Pasteurized milk and malted milk were, with meat and orange juice, the principal diet.

Case 2, Esther F., aged 5 months, gave a negative family history: Mother died shortly after the birth of the patient. Five different brands of artificial food had been tried and retried, but the patient did not thrive. She lived in one of the most healthy of our suburban towns.

On Aug. 15, 1895, I first saw the case. She was emaciated, crying with a sickly whine, her scalp was covered with small boils, the fontanelles open, the feet swollen, and she had a paralysis of both legs. She was constipated, with clay stools; fever was present almost constantly, occasionally to 102°, and she was restless during the night.

The deformities present were curvature of the spine, beading of the ribs, enlargement of the external ends of the clavicles and distal ends of the radius, ulna, tibia and fibula, and the head was of the characteristic box type. The "pot belly" was quite marked.

The following treatment was ordered at once:

Malted milk.
Expressed juice from one pound of meat.
Juice of one orange.
Plenty of cold water.
Alcohol sponge bath twice daily when patient had fever.
Castor oil inunctions over bowels for constipation.
Constant recumbency in bed.

There was no improvement until Aug. 19th, when she was sleeping better, the bowels were in a better condition, and the patient was able to smile.

On Sept. 2d she had gained one pound in weight; the cheeks were plump, and there had been no fever for about one week.

She had been unable to move her legs from June 30th to Aug. 23d. On the night of the 23d she had a very bad night, the first for some time, evidently suffering with great pain in the legs. On the morning of the 24th she was able to move the legs, and the improvement was gradual but continuous.

On Oct. 21st she was practically well. No drugs had been prescribed during the treatment.

Remarks.—The treatment as above given was changed occasionally as the case appeared to demand it. When she did badly for a day it was evident that the food was not given in proper proportions. The restlessness and fever disappeared as soon as this error was corrected.

There was no bleeding of gums, but teething did not begin until she was one year old.

Case 3, W. D., aged 14 months, lived in one of the most picturesque points about Pittsburg. The family history was negative. She was artificially fed from birth. She had measles in February, 1896, and had never properly recovered from this attack.

Various brands of condensed milk and artificial foods had been used, but it became necessary to discontinue all of them.

On August 20, 1895, her temperature was 102° F., and for some months she had an evening temperature, and was constipated.

Deformities.—The head was very large with a bulging forehead, as shown in the tracing, the fontanelles were open, and both external malleoli, the lower end of the radii, and the external epicondyles were enlarged. Beading of the ribs and spinal curvature were also present. (See tracing for spine.) There was loss of motion, and edema of the lower extremities existed to a marked degree.

Treatment.—Orange juice, beef juice, cold water, malted milk, and castor oil inunctions over the bowels were ordered. She did not improve, and various changes were made in the food, until it was found that sterilized milk agreed with her. Recumbency in bed was ordered. Her improvement may be studied from the tracings of the skull and the spine. The skull actually changed in form so rapidly as to be noticeable to the mother and nurse.

THE MODERN TREATMENT OF DIPHTHERIA IN PRIVATE PRACTICE.

By W. A. Walker, M.D.,
New York.

ON the evening of September 14th, a little girl called at my office with a request that I should visit her sick brother. The public schools opened their doors on that day, and Johnny McD., although complaining of feeling sick, was sent to mingle with the hundreds of other school children.

An inspection of the case showed all the clinical symptoms of diphtheria, with a muco-purulent discharge from the nostrils so fetid that the odor filled the room. The examination completed, the mother anxiously inquired: "What is it?" "It is a case of diphtheria," I said; and her face blanched, her voice trembled, as she said quietly: "I know what that means —I have buried two children with that."

On the 19th the father called at the office to say that Johnny could not be kept in bed, and they thought he was well.

In a skeleton way this illustrates the results of treatment with anti-diphtheritic serum, and stands in bold contrast with the drug treatment with the bottles of medicine, the cruel swab, the sleepless nights, the futile attempt to force food and medicine, the onset of secondary infection and death or a tardy convalescence.

The uniform success which I have observed, and had in my own practice, has convinced me that the treatment of diphtheria with antitoxin is a great advance in therapeutics, and it is my impression that critics who have condemned this treatment have in most instances either observed only hospital patients, or have not persisted in the treatment, or perhaps have not had a fresh and reliable serum, or have not used it early enough.

From the standpoint of a general practitioner I confidently expect to cure any case of diphtheria in private practice seen within forty-eight hours of the onset on the disease.

Take, for instance, a typical case: a previously healthy child, six years of age; the family physician is called in and finds the following conditions: general depression, face pale, pulse accelerated, temperature about 101° F. Inspection of throat shows general diffuse redness, with the characteristic deposit on one or both tonsils. This peculiar deposit once seen is not readily forgotten; the high fever, flushed face, and rapid pulse usually seen in pseudo-membranous tonsilitis are absent, the margin of the inflammatory process is usually sharply defined in diphtheria and not in tonsilitis. In follicular tonsilitis the leading symptoms are: intense congestion of the tonsils, with small discrete white patches, pulse and temperature high.

If, however, the symptoms are not well defined and the differential diagnosis cannot be clearly made, we should give the patient the benefit of the doubt and a dose of anti-diphtheritic serum administered at once. Then a culture should be made to verify the diagnosis. If I believe the case to be diphtheria, or have a reasonable doubt as to the diagnosis, I use the antitoxin whilst waiting for the report from the bacteriologist. If the case turns out to be tonsilitis no harm has been done, as I consider a fresh, reliable serum, properly administered, devoid of danger.

Given, then, a case where the diagnosis of diphtheria is clear, I give as quickly as possible either 1000 units or 1500 units of the serum. The attendant is instructed to keep the throat clean with a bichloride solution of one to 5000; or a solution of permanganate of potash may be used one to 4000, if the attendant is not a trained nurse. With a young child, difficult to manage, it is best to inject the solution into the nostrils; in older children, a spray can be used in both the nostrils and throat more advantageously.

At the end of twenty-four hours I expect to find the membrane beginning to shrivel and curl up at the edges. In any event, however, I administer a second injection at this stage of the disease, and in a majority of instances this is sufficient. I advise very strongly that the second injection be given in all cases where the diagnosis of diphtheria is clear. I do not expect a cure from one injection and rarely omit the second. If the symptoms do not indicate the beginning of convalescence at the end of forty-eight hours, I give a third injection. In fact, I would use a fourth injection if it seemed advisable at the end of another twenty-four hours, but I think this will rarely be found necessary.

I have not used anti-streptococcic serum, but I am convinced that in cases in which the treatment has been delayed, or in cases showing the streptococcic infection, proven by bacteriological investigation or from the peculiar red zone of inflammation which begins to spread from the margin of the diphtheritic process, the anti-streptococcic serum should promptly be used. Not only would I do this, but in cases of severe acute disease in the throat, which present all the symptoms of diphtheria, but where the bacteriological report does not confirm the diagnosis, I would resort to the anti-streptococcic serum. In fact, if I should have a case of diphtheria in which the membrane does not begin to peel up by the end of the twenty-four hours following say the second injection of antitoxin, I will use the anti-streptococcic serum.

The importance of a fresh, reliable, highly concentrated serum must not be lost sight of, and as I have full confidence in our American products I do not use imported serums. I have used several serums, but have been best satisfied with the effects of that sent out from the biological department of Parke, Davis & Co. I heartily approve of the way this firm now puts up the serum, in bulbs instead of in bottles. It is not only highly concentrated, but, being hermetically sealed, should keep indefinitely. It is put up in bulbs of so many units, 250, 500, 1000, 1500, and each bulb being a dose, there is no temptation to use a serum that has been exposed to the atmosphere. I append a table giving a report in detail of the last seven cases treated in private families.

TABULAR REPORT OF CASES.

	1	2	3	4	5	6	7
Age of patient	8 yrs.	2 yrs.	2 yrs.	11 yrs.	3 yrs.	3 yrs.	8 yrs.
Other cases in family						Yes	
Bacteriological cultures	Yes	Yes		Yes	Yes		Yes
After first appearance of the disease antitoxin was given.	1st day	1st day	3d day	2d day	2d day	2d day	3d day
Doses of antitoxin given	3	2	2	3	3	2	3
Units in each injection	1500 1000 1000	1500	1500	1000	1500	1500	1500
Total number units in each case	3500	3000	3000	3000	4500	3000	4500
Antitoxin used	Gibier	B of H	B of H	PD&Co	PD&Co	PD&Co	PD&Co
Intubation	1st day				2d day		
Tube retained	3½ days				2½ days		
Recovery	Yes	Yes	Yes	Yes	Yes	Yes	Yes

As to the medicinal treatment, I do not give any drug with the idea of influencing the course of the disease. I treat the conditions as they arise symptomatically. If I have evidence of the absorption of poisonous secretions, and a coated tongue, I give calomel tablet triturates, ¼ grain every hour, until the bowels move freely. Alcohol is rarely needed in cases receiving the serum treatment, especially if it is used early enough, whereas, under the old treatment, when we were so apt to find profound toxic symptoms, alcohol was more often needed. It is perhaps well to state here that I prefer fluid nourishment, principally milk, during the course of the disease.

Bone-Marrow.—Since ordinary forms of anemia yield readily to treatment by other drugs, it is chiefly in pernicious anemia and leucemia that we have hoped for help from bone-marrow. There is no account of a single case of undoubted pernicious anemia which has shown any permanent improvement. In the case of Danforth, which attracted so much attention at the time it was reported in October, 1894, there has since been relapse and death, and there is no reason to suppose that the temporary improvement had any connection with the treatment. The cases of Frazer and Bigger both lack a satisfactory blood examination, and their subsequent progress after the first few months is not recorded. The other cases reported as improved (nine in number) are defective, either as to diagnosis or as to the subsequent progress of the case. Temporary improvements are so common in pernicious anemia with any treatment, as well as without any, that no case can be called cured unless the improvement has persisted at least two years. There are no records of improvement in leucemia.

In secondary anemia and chlorosis we have a considerable number of favorable reports. Fifteen cases of chlorosis and chlor-anemia, are all said to have improved, and in two of these Blaud's pills are said to have had no effect.

Seventeen cases of secondary anemia, including four of rickets, are also recorded as improved. But these anemias are easy to cure, as a rule, and as marrow contains iron, it is not remarkable that improvement was noticed.

Two cases of anemia infantum, pseudo-leucemia, are reported by Combe, a French observer, as cured by bone-marrow, but there is reason to doubt the diagnosis.

On the whole, there seems to be less reason to expect good results from the use of bone-marrow than from any of the other animal extracts.—CABOT, *Med. News.*

PRACTICAL NOTES.

To Render Quinine Palatable.—Schneider recommends the use of ripe apples to render quinine palatable and agreeable. He advises some scraped apple (preferably acid) to be put into a tablespoon, the quinine placed upon it and covered with another layer of scraped apple. It is stated that taken in this way quinine does not leave the slightest bitter taste in the mouth.

Others have recommended to dispense quinine with cognac and orange-peel syrup, or with cognac and concentrated lemon juice.—*Am. Med. Surg. Bull.*

Tape Worm.—The following preparation, attributed to Duchesne, may be employed:

℞ Ethereal oil of male fern	1 drachm
Calomel	6 grains
Water Powdered sugar,	of each ½ oz.
Gelatin	a sufficient quantity.

M. S.—To be taken in two or three doses.—*Med. Journ., 1896, lxiv, 269.*

Thyroid Feeding in Dwarfed Children.—The fact that in myxedematous children and cretins the thyroid treatment is associated with notable growth in height has led some observers to try its effects in dwarfed children not myxedematous, to see if their development could not be helped. He collected ten such cases, three in idiotic children, and six in whom the lack of development was mainly physical. A considerable increase in height was observed in all the cases, but the mental symptoms were not improved.—Cabot, *Medical News.*

Laryngeal Croup.—A. L. Hall advises the use of quinine sulphate in cases of spasmodic croup. For a child from two to five years of age the dose is from one-half to one grain given at intervals of two to four hours. Usually the first three or four doses should be administered at the shorter interval mentioned and then uninterruptedly continued at the longer interval for two or three days, or until the disease is at an end. Frequently the first two or three doses are rejected on account of the bitterness of the remedy, but tolerance is quickly established, and a croupy child under gentle discipline readily learns to take quinine without special repugnance.—*Med. Rec., 1896, I, 137.*

Thyroid Feeding in Tetany.—Of twelve recorded tetany cases subjected to it, only four showed improvement, but two of these were very obstinate and long standing cases, and have shown no relapse in a period of five months. Possibly, here, as in many other conditions, thyroid feeding may help to distinguish different types within each disease, according as they are or are not affected by the thyroid treatment. It may be that there are the thyroidal and non-thyroidal types of obesity, psoriasis, tetany, insanity, etc.—CABOT, *Med. News.*

Protecting the Infant's Sight.—The last Legislature of South Carolina passed what is popularly known as the "Sore-eyed Baby Act." It directs that should one or both eyes of an infant become reddened or inflamed at any time after birth, it shall be the duty of the midwife or nurse or person having charge of said infant to report the condition of the eyes at once to the local board of health of the city or town in which the parents of the infant reside. Failure to comply with the act subjects the guilty party to a fine of $25.00, or one month's imprisonment.—*Am. Med. Surg. Bull.*

Vehicle for Castor Oil. — A new method of disguising the disagreeable taste of castor oil is recommended as follows:

Fifteen to twenty gme. (say ½ fl. oz.) of the oil are mixed with a glassful of milk and heated under constant stirring. In a few minutes a perfect emulsion is had, to which is then added a little syrup of orange-flowers, resulting in an active preparation of an agreeable taste.

Another method consists in shaking castor oil with brown-beer in a bottle, or mixing the two in a jar with a rotary motion. This is said to yield a mixture that is very agreeable to take.—KLEIN, *Am. Med. Surg. Bull.*

Rectal Alimentation.—The following prescriptions are given by the *Journal des Praticiens:*

As a nutritive enema:

Cod-liver oil	5 ounces
Yolk of one egg.	
Lime water	10 ounces

This mixture is sufficient for four or five enemata, which may be given during the course of a day. In other instances the following may be employed:

Cod-liver oil	5 ounces
Yolk of one egg.	
Chloride of sodium	40 grains
Water	10 ounces

This is also sufficient for four or five separate enemata.

In still other cases, where it is desirable to use the hypophosphites, and the stomach will not retain them, the following rectal injection may be employed:

Cod-liver oil	1 pint
Gum tragacanth	35 grains
Gum arabic	1½ ounces
Hypophosphite of lime	35 grains

Lime water, a sufficient quantity to make 1 quart.

From four to six ounces of this liquid may be used as an injection.

For dysentery:

Sulphate of quinine	10 grains
Powdered ipecac root	5 grains
Chloride of ammonium	10 grains
Tincture of opium	12 drops
Distilled water	1 ounce

Of this a small teaspoonful may be taken every four hours. —*Am. Druggist.*

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Editorial.

THE COMMON INTERESTS OF CHILD PSYCHOLOGY AND PEDIATRICS.

PSYCHOLOGISTS and neurologists have found that they may learn much from each other. The point of view from which each is observing the dependence of bodily and mental reaction upon environment or upon anatomical structure and physiological process has been modified as each becomes better acquainted with the facts and hypotheses with which the other is conversant.

It is a question whether the professional neurologist is becoming more of a psychologist or the psychologist more of a neurologist and physiologist. Much of the work of Helmholtz, that passes for physiology, will yet be found incorporated in the modern text-book of psychology. Nor is this an isolated instance; both the content and attitude of modern psychology show the influence of recent progress in physiological research.

On the other hand, a Hering, an Exner, or a Ferrier, is under the necessity of having constant recourse to psychological analysis and speculation. In positing to localized areas of the brain special functions, whether the methods pursued have been those of physiology or of pathology, much assistance has been derived from psychological analysis. Speculation as to the function of the so-called silent regions of the frontal lobe calls particularly for sound psychology, because the observation of such recondite, and often inconsiderable modifications of behavior as are induced either by ablation of the parts or by lesion within these areas, requires powers of psychological observation that the physiologist or physician without special training seldom possesses. Again we can refer to Kussmaul's original treatise on the disorders of speech as an evidence of a reputation for soundness based upon the firmness of a psychological foundation, and we can further point to the large drafts upon the child psychology of Pryer that are made by Wyllie in the most recent contribution to the same subject.

On the practical side also might be mentioned many therapeutic agencies that to-day receive the recommendation of physicians largely because of their psychological or pedagogical value. Among such mental influences, perhaps the most intangible, and yet far from being the least effective, is the personality of the physician. Much more tangible and specific is a pedagogical remedy or agency for ameliorating the condition of idiocy and imbecility (the surgical operation of opening the brain case) advocated by Dr. Dana in a recent number of PEDIATRICS because of its psychological or moral effect. In the same article, he cites approvingly the statement of a physician to the Clinton penitentiary, to the effect that "deep incisions through the scalp and periosteum have been found to produce a decided mental improvement."

It would seem, therefore, that the specialist in diseases of children, the psychologist, and the pedagogue, might now and then consult together as to diagnosis and remedy, particularly in that ill defined but rather large class of cases not quite normal nor yet pronouncedly pathological. The pedagogue may be advised to learn from the physician and pathologist the morbid and abnormal conditions that are frequently met with in childhood, and to acquire some knowledge of the methods which are employed towards their amelioration or removal. The physician, on the other hand, ought not to be above learning from the pedagogue and psychologist what normal, mental, and physical conditions manifest themselves in and out of the school-room, nor above inquiring into the significance of methods that have been evolved as the result of the experience of generations of teachers in the effort to modify and develop mental and physical power. The psychologist must draw from both if he is to study under most satisfactory conditions the mental and physical characteristics of the developing human being. He must needs examine the normal type and its modification year by year as the child grows and develops. In this he must not overlook the abnormal types as these present themselves to the physician.

As no department of modern psychology has shown within the past few years such vigorous activity as has child psychology or pedalogy—to use a word of somewhat broader signification in part analogous in structure and origin to such words as pedagogy and anthropology—so no psychology has devoted itself more assiduously to the study of slightly abnormal types.

The pages of PEDIATRICS offer the proper medium for an exchange of opinion and observation in this field common to child psychology and to pediatrics—the former concerning itself mainly though not exclusively with normal types of children, the latter exclusively with the abnormal. Of particular value at the present time would be a comparative study of the types of children found in institutions for the training of defective classes and in the public schools, combined with a psychological examination of pedagogical methods that have been found most effective in modifying character and assisting development. Above all, do we need in the public schools such patient study of each particular child, and devotion to his individual needs and interests, as have given to the work of special institutions like those in the neighborhood of Philadelphia for the training of feeble minded children, for the instruction of the deaf and of the blind, a greater pedagogical effectiveness than can be found in so many schools belonging, as they do, to more stereotyped educational systems, wherein the training of children seems to be designed to exemplify pedagogical methods or to realize some idiosyncratic educational ideal?

The present scope and object of "Child Psychology" is so frequently misunderstood that a few words of explanation may not be amiss. The scientific study of the normal child owes its inception in this country to the efforts of Stanley

Hall, and had its beginning as a special department of experimental psychology. Its development has been furthered by educators throughout the country to such an extent that leaders in pedagogy show favorable signs of turning their attention from discussions of methods and remedies to the painstaking and unbiased examination of children.

One or two illustrations will serve to indicate the direction this work has taken. Russell, of the Worcester Normal School, was the first to begin the collection of observations to which the name of child study has been given; they consist of exact reports, without explanation or interpretation, of the actions of children as observed by the one making the report. The reports of these observations are classified and catalogued as mental material to be subjected to subsequent critical examination. Closely related to this class of observations is Stanley Hall's "examination of the contents of children's minds on entering school," the first attempt in this country to study the child's intellectual and emotional constitution by skilful and appropriate questions. A variation of this general questioning method constitutes the special "syllabus" or "questionaire"—a carefully prepared series of questions on some selected topic, such, for example, as the fears of children, their ideas of nature and natural phenomena, mental imagery and hallucination, colored audition, the coloration and personification of letters, figures and words, "number forms," and "the continued story." Vagaries of intellect and emotion supposed to be abnormal or of infrequent occurrence are shown by answers given to these syllabi to be common to many children and to influence thought and conduct to an extent that is at times pathological.

Numerous special investigations into the psychology of childhood have been made with all the care and patient thoroughness of experimental psychology and have applied methods calculated to give a quantitative determination of psychophysical relations. Some of these, although appearing to have only a pedagogical interest, present phases of mental phenomena appealing even to the neurologist. Such, for example, is the report of Miss Wiltse, that eighty boysof the Boston Latin School, between twelve and twenty years of age, misspelled one or more such simple words as fan, log, long, pen, dog, pod, land, few and cat; the word pod calling forth such words as how, heart, hog, hod, hard, fod, thod, thog, bog, pug, part, plot, pard, long and bod. Of five hundred and thirty children in a grammar school, only thirty-four spelled all of these words correctly. As great care was exercised in enunciation, and as every boy would probably have spelled the words correctly had their meaning been understood, we may regard the result as evidence of an unsuspectedly large degree of partial verbal deafness among normal children. General deafness as well as diminished auditory sensibility was shown by these and other investigations to exist under conditions that caused the pupil to pass as dull, inattentive or even idiotic. A child of seven who had been kept in the kindergarden because of arrested development was found to be deaf and was sent to an institution for such defectives. The value of some acquaintance with the mental and physical condition of defective children is emphasized by the discovery of such cases as these among presumably normal children. These investigations should be supplemented by the careful study of specifically defective classes. What this research in comparative psychology may be expected to bring forward of scientific interest and importance can be illustrated by a class of cases sometimes met with in institutions for the deaf. It is probably within the experience of every instructor of the deaf to have found a supposedly deaf child exhibiting through the presence of echolalia, viz., the ability to repeat words immediately after they have been spoken, an intactness of the auditory-vocal mechanism; and yet, although in no sense idiotic, the child will be incapable of remembering what it can hear and repeat, in consequence of which it cannot be taught the meaning of words nor acquire a vocabulary. Such cases seem to indicate a congenital form of verbal amnesia. They will throw important side-lights upon the development of speech and thought, and merit consideration by the specialist along with the pathological conditions observed in aphasia.

These experiments, of which we have given only a single example, purposely selecting one that seemed at first sight to be quite remote from the interests of the specialist in children's diseases, reveal many minor mental and physical deficiencies that ought to be recognized by Boards of Education as requiring treatment in special schools belonging to the general educational system, with specially equipped instructors, on a plan similar to that now pursued almost universally in Sweden, and in this country by a few schools, such as those under the charge of Mrs. Esten, at Providence, R. I., and of Superintendent Twitmeyer, at Honesdale, Pa. The pediatrist, the psychologist and the pedagogue should join forces to bring about this result so beneficial to all classes of children.

Thus modern child psychology and pediatrics are actuated by a common scientific spirit in employing methods of observation and experiment to investigate the mental and physical constitution of normal and abnormal children, and both are united on their practical side in applying such pedagogical and therapeutic remedies as prove themselves upon trial able to modify present conditions in the direction of normal growth.

LIGHTNER WITMER, PH.D.,
University of Pennsylvania.

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Society Report.

LOUISVILLE CLINICAL SOCIETY.

Stated Meeting, June 2, 1896.

Dr. Philip F. Barbour read a paper on *Syphilis in the Young* (see page 361 of this issue of Pediatrics).

DISCUSSION.

Dr. S. G. Dabney: This paper is of great interest to a specialist who works in the line I pursue. The eye, ear and throat men are accused of attributing too many things to inherited syphilis. We do so not because of the results of treatment, for we are all aware that there are many other diseases besides syphilis that require the administration of mercury and iodide of potassium, but because it has been shown by clinical experience that many diseases of the eye, ear and throat are due to inherited syphilis.

I will take up briefly the separate points made by Dr. Barbour: Firstly, I would suggest that the local treatment of snuffles might be improved upon by the use of other medication besides nitrate of silver. We sometimes have the greatest difficulty in getting these little patient's to nurse. They must stop every minute perhaps, as it is very hard for them to breathe. I have found that a solution of menthol and a very mild solution of cocaine properly applied to the nose at regular intervals adds to their comfort and enables them to properly perform the act of respiration. We must remember that children are far more susceptible to cocaine than older persons. In young children, instead of a four per cent. solution, we should use much less, perhaps ¼ of one per cent., this with a weak solution of menthol and some oil of almond painted in the nose occasionally adds greatly to their comfort.

The next point I would consider is Dr. Barbour's statement that eye symptoms are always late. Unfortunately, the eye symptoms are sometimes very early, and it is the early ones that are more frequently overlooked. I may mention as an illustration the case of a child recently brought to me who had inflammation of the iris, and as this form of iritis is painless, it had up to that time been overlooked. When the child was brought to me the iris had become adherent to the crystalline lens, the pupil was practically obliterated, and the eye permanently and irreparably damaged. These conditions evidently came on very early in the infancy of the child. The most common ophthalmic disease caused by inherited syphilis is the one Dr. Barbour mentioned—diffuse interstitial keratitis. Ulceration is very rare. I have never seen a case of ulceration occurring in an interstitial keratitis. It is interesting to note that these patients do not show immediate and marked improvement under the administration of antisyphilitic medication. They will improve as much from hygienic measures as anything; they may be sent to the country, a great deal of the treatment being directed to their general health, of course, also giving antisyphilitic medication.

I was very much interested in the point made by Dr. Barbour, that serious lesions in the nervous system most frequently occur in cases that had mild early symptoms. This is almost universally true in adults, and it is the experience of all of us who do work in this line, that cases of dilated pupil, double sight, etc., disappearing in a few months, have, in the larger proportion of cases, been cases of very mild syphilis at first.

Attention is called to this fact by Alexander, who has written a book on syphilis of the eye. He has had enormous experience in this line and states that most cases where there is serious involvement of the nervous system, manifested often in the eye, are cases in which the early symptoms of syphilis were very slight indeed.

We occasionally see other forms of eye disease, inflammation of the choroid, vitreous, etc., resulting from inherited syphilis.

The ear cases are perhaps the most intractable and most incurable form of deafness, as it involves the nervous apparatus of the ear. One case that I may briefly allude to occurred in a young lady of good standing in society. She was the only child of wealthy parents. She had diffuse interstitial keratitis, and such deafness that it was absolutely incurable. She had an intense syphilitic ulceration also of the pharynx and larynx. She died when sixteen years of age. With sight much impaired, perfectly deaf, syphilitic stenosis of the larynx and worn out by the specific poison, this girl had for years been under the care of well-known general practitioners, genito-urinary specialists, and oculists. She had every advantage of hygiene, travel and medicine. Such cases are happily rare, but they illustrate the malignancy sometimes seen in inherited syphilis. Dr. Barbour stated in his paper that interstitial keratitis from inherited syphilis occurs as late as forty or fifty years. I am certain that most ophthalmologists will not agree with this statement. All cases of interstitial keratitis that develop in middle life are probably due to other causes than inherited syphilis. The vast majority of these cases occur in children under fifteen years, the greater number perhaps under twelve. Diseases of the larynx, the result of inherited syphilis, have been largely overlooked. McKenzie wrote a paper on the subject ten or twelve years ago in which he cited several cases. I have one of this character under treatment at the present time. The patient is a girl fifteen years old, she has a typical ulceration about the palate and on the side of the pharynx, with a large number of perfectly distinct scars further back, the result undoubtedly of inherited syphilis. Inherited laryngeal syphilis, like syphilis of the ear, is sometimes one of the most intractable diseases with which we have to deal, but frequently it yields promptly.

Dr. T. C. Evans: The question of the transmission of syphilis has always been a deeply interesting one. It is very hard to determine whether the disease is transmitted by one parent independently, or whether they are both capable of transmitting it. From my clinical experience I am skeptical in regard to the father transmitting syphilis direct without first contaminating the mother. I would say that all mothers who give birth to syphilitic children are in a manner syphilized, that they have been infected by some process before the child is infected. I do not believe, notwithstanding the vast amount of literature on the subject, that it is possible for the father to transmit syphilis to his offspring without first infecting the mother. I do not think you can have a mother entirely pure and a child syphilitic.

We are all familiar with the so-called Colles Law in which it is claimed that the mother becomes immune without herself becoming syphilized; that by some process during the period of gestation she becomes immunized, so that it is impossible for her to become syphilitic either from the child or from direct contagion. This idea seems to have been proven by the experimenters who found that they were unable to produce syphilis in a mother who had given birth to a syphilitic child. According to the Colles Law, then, it is claimed that the mother being immune it is perfectly safe for her to nurse a syphilitic child. This theory is plainly controverted by the fact that we often meet with chancre of the nipple from the mother nursing a syphilitic child.

One of the chief characteristic points of inherited syphilis is peculiarity of the teeth. Attention was first called to this feature by Hutchinson, who has probably written more than any other living authority on the subject. It was Hutchinson who established the trio of characteristic symptoms of inherited syphilis: (1) the peculiar notched condition of the permanent teeth, (2) interstitial keratitis, (3) deafness. These are recognized to-day as being the three strong points in the diagnosis of inherited syphilis. The teeth that are affected are usually the superior central incisors, occasionally some of the other permanent teeth. The milk or deciduous teeth are not as a rule affected. Dentists tell me, however, that the deciduous teeth of syphilitic children are more prone to caries than the teeth of the other children. If this is true it is another important diagnostic feature of inherited syphilis.

Another diagnostic point is the family history. I think this feature counts for more than anything else. If you find a mother who has given birth to three or four children who have died within two or three weeks after birth, or a mother that has had numerous still births or abortions, or if you find a family with one or two children almost grown then younger children coming along with five, ten or fifteen years difference between their ages, it looks decidedly suspicious.

As to the eye symptoms.—I am inclined to think that Dr. Dabney misunderstood the point Dr. Barbour makes as regards eye symptoms coming on late. He stated particularly that interstitial keratitis was among the later manifestations, rarely coming on before the seventh or eighth year. It is probably true that in most cases this symptom manifests itself between eight and fifteen years, that is diffuse interstitial keratitis, the other eye lesions may develop much earlier, for instance, inflammation of the iris, which Dr. Dabney mentioned, may occur within the first few weeks after birth.

As to ear symptoms.—The cases that have come under my own observation have manifested ear symptoms produced by inherited syphilis usually between the ages of ten and fifteen years. I have not seen ear symptoms in younger children. Of course we recognize it would be difficult to determine anything definite concerning deafness in very young children. One diagnostic point in regard to ear symptoms due to inherited syphilis is the suddenness with which deafness develops. It is not uncommon for patients to become almost totally deaf within forty-eight hours. These cases are very intractable and do not respond to any form of treatment. The pathology is an infiltration into the semicircular membranous portions of the canal, the cochlea and bony structures becoming involved later, but the first infiltration is said to be into the membranous portions of the canal.

Dr. T. P. Satterwhite: For many years I have had charge of an eleemosynary institution for the treatment of diseases, and have always battled against the one theory of all consultants with regard to obscure cases. There seems to be a disposition on the part of doctors, especially if either parent has been a hospital patient, to ascribe all obscure diseases to syphilitic taint, whether or not there is in the patient any marked evidences of the disease. Cases for instance in which the patient would give a clear history of themselves, they would, notwithstanding this, ascribe the symptoms from which they suffered to syphilitic troubles in their parents.

Dr. Barbour's paper, we all recognize, is a full and complete resumé of all the symptoms of syphilis. I never, however, ascribe any unsatisfactory and not well understood symptom in the offspring to syphilis of the parents even though they may have had syphilis, without there are marked and unmistakable symptoms of the disease in the child. If treatment that is usually employed in syphilis relieves the symptoms, it is no evidence to me that the disease was syphilis, because we know there are many conditions which call for the same remedies that we ordinarily employ in treating syphilitic patients. The trouble is that the exact nature of many obscure symptoms of childhood is not fully known.

Dr. J. W. Irwin: All the syphilitic children that I have seen have either not lived to the age of five months or they have been cured. The history of the case as suggested by Dr.

Evans is of the greatest importance, and it must always so remain, from the fact that the sufferer is not capable of giving a history for itself. We cannot of course ascribe every skin lesion of the new-born child to syphilis, even if it should happen to be permanently cured by the administration of mercury and iodide of potassium, because these remedies may be indicated in a great variety of diseases and their administration may be followed by marked improvement in the symptoms. We cannot ascribe all intractable and puzzling cases to syphilis, although there are usually certain marks about a syphilitic infant which would call our attention to it as the offspring of syphilitic parents. The strongest local evidence we have in these cases is in the skin symptoms. The description Dr. Barbour has given seems very good. Things are not always what they seem. If a child has a narrow passage in its nose, with swollen Schneiderian membranes and with conjunctivitis, we are not justified on such evidence alone in saying that the child has inherited syphilis. If the child in other respects appears to be healthy, if it happens to have an eruption on the skin, we are not justified in saying that the child has inherited syphilis; the eruption may be due to disturbance of the alimentary canal. A father, perhaps thought to be cured of syphilis, marries and begets a child. He may not infect the mother, yet she gives birth to a child that shows evidence of syphilis; in such a case, if the father gives the correct history, it makes our diagnosis of inherited syphilis almost conclusive. My experience is that all the children born of syphilitic parents, the children being syphilitic when born, have either died within the first five months or have recovered permanently.

DR. J. A. LARRABEE: Dr. Barbour's excellent paper is a complete resumé of the whole subject. I recognize the vast amount of clinical work he has done in this line, and also recognize the correctness of the deductions which he has drawn. As to the theory concerning the transmission of syphilis, this must remain a mooted point for it cannot be definitely settled. That a woman can bear an offspring which shall present signs of syphilis without herself being infected is an utter impossibility. Cases where late syphilitic symptoms have occurred are simply cases where the symptoms have existed unobserved; it is not possible for syphilis to remain dormant or latent and appear at seven, fourteen or twenty-one years. They are simply cases where the disease has been overlooked. It has been only within the last two decades that infantile syphilis has received the attention which the subject merits. Intra-cranial syphilis has received in adult life all the attention it deserves, but we must recognize that the study of intra-cranial affections of childhood is almost in its infancy. We are able to exclude tubercular meningitis, which in many respects resembles syphilitic affections of the brain, especially where the pia mater is involved, if we make our diagnosis by elimination. I may say that gummata of the brain are extremely rare and that endarteriïtis is a more common affection. Family history may be more important than the actual symptoms present in a case.

In regard to deafness.—All cases of so-called congenital deafness, even without other evidences of syphilis, can safely be called the result of inherited syphilis. As to keratitis, I am not so positive; we must remember that we have a diathesis from debility that will produce keratitis. Struma is nothing but a debilitated condition of the system, which I believe to be a degenerated syphilis.

When we come to consider the subject of syphilis of the nervous system, we find that these manifestations are numerous and varied, and it is a field that will need very careful research.

In regard to the Treatment of Syphilis in Childhood.—As soon as we recognize the symptoms we should take active antisyphilitic measures. Hygienic treatment is of the greatest importance in childhood. I believe it is possible to entirely eradicate syphilis with proper hygienic and other treatment.

The plan laid down by Dr. Barbour is the only rational one, and by following the methods he has outlined, whether the lesion be in the nervous system, the brain, or elsewhere, marked benefit will follow. I am very much impressed with his statement concerning color of the skin. A symptom upon which little stress has been laid is asthma. I recently saw a case in a child five years of age where the paroxysms threatened death; almost every known means was used for its relief as suffocation seemed imminent. Inunctions of mercury were freely used, and the child was relieved in the course of a week or ten days of a condition which I believe was a true syphilitic affection of the bronchi, just as much as if it had occurred in the adult. I saw two cases with Dr. Barbour, at his request, in which the diagnosis seemed rather obscure. Both proved to be syphilitic in origin, one-sided paralysis being the chief manifestation. In all cases of one-sided paralysis occurring in childhood, we can usually make the diagnosis by exclusion, and that they are syphilitic in origin is further indicated if they yield promptly to mercury and iodide of potassium.

Dr. P. F. Barbour: The subject *Syphilis* is so large that it would be impossible in a ten or fifteen minute paper to mention even the names of the conditions in which syphilis is concerned as a causative factor, or as a complication. I have tried to cull out a few of the more pronounced phenomena.

Dr. Dabney, in his very excellent discussion of the eye symptoms, said that I failed to speak of iritis, or to mention that the eye symptoms might be secondary. I think he misunderstood me, as eye symptoms occur very early in many cases, sometimes soon after birth, and the danger to the eye-sight of the patient is very great.

The family history has an important bearing on the diagnosis of syphilis as a matter of course, and this is so well understood that I hardly thought it worth while to speak of it. I wished mainly to call attention to syphilis in the child itself, and to show that it could be recognized independently of the family history. When you learn that the mother has had abortion after abortion, or have elicited the history of the initial lesion, skin eruption or other pathognomonic signs of syphilis, it would be a very easy matter to affirm that the lesion in the child is syphilitic; but my object was to call attention particularly to the child itself, leaving out of consideration entirely the family history, because such children as a rule descend from a class who do not remember their symptoms, and then parents who do not give any evidence of the disease frequently have syphilitic children. To outline the symptoms in the child that can be recognized as syphilitic manifestations was the object of my paper.

Abstracts.

CASE OF FATAL INFANTILE JAUNDICE FROM CONGENITAL NARROWING OF THE COMMON BILE-DUCT.

J. A. C. Kynoch (*Edinb. Med. Journn.*, *1896*, *ii*, *35*) reports the following case:

Matilda Chisholm, aged three months and four days, was brought to the out-patient department of the Dundee Royal Infirmary when two and one-half months old, on account of persistent yellowness of the skin, which the mother stated had been noticed since birth. At first the yellowness was most marked on the chest and abdomen, but five weeks after birth the conjunctivæ were noticed to be also affected.

At birth the child was considered small, and from the *first* day the skin was noted to be very yellow. There was never any hemorrhage from the umbilicus, nor from the bowels, mouth, or nose. It was bottle-fed, and had occasional attacks of vomiting. There never were symptoms suggestive of congenital syphilis.

When seen for the first time it was noted to be very emaciated, and the skin had a yellow-green color, the conjunctivæ being likewise affected.

There was considerable distention of the abdomen, especially marked over the right side. On palpation the liver was felt to be enlarged, its lower edge sharp, and on percussion in the mammillary line, the dulness extended from the fifth rib to midway between the costal margin and umbilicus. The spleen was not felt below the costal margins for some days later, when the attempt was made for the first time. Examination of thorax was negative. Grey powders, ½ gr. twice daily, were prescribed (so as to keep it attending the infirmary). It was seen twice a week during the three weeks it attended the infirmary. There was never any improvement noted; the skin always appeared to become greener in appearance, although the mother stated that the intenseness of the jaundice varied. The emaciation was progressive, and during the last week of attendance there was noted marked redness and swelling of both eyelids, especially the left, with greenish-yellow discharge, and a fimly appearance of both corneas, which became slightly opaque two days later.

The stools from the day of birth were white and milky, and on several occasions I was able to satisfy myself of this putty-like color. The urine was dark, and stained the linen yellow. On examination it contained bile pigment; no albumin. Microscopic examination not made.

A post-mortem was made, and the abdominal organs removed. The thorax was not examined. The skin was noted to be of a greenish tinge; body very emaciated. On opening the abdomen the peritoneum appeared perfectly normal; there were no adhesions and no ascites.

Liver enlarged, 237 grammes (= 8 oz). Length of upper surface, 6½ in.; length of lower surface, 5¾ in. Antero-posterior—right lobe, 4¼ in.; left lobe, 3¼ in. Its edges are sharp, color olive green, consistence tough; fibrous bands of a yellow color are seen on surface, which is somewhat irregular. Gall-bladder, flaccid, and contains thin bile; capsule not thickened, and on squeezing a cut surface brownish fluid exudes. Both hepatic ducts appear normal, likewise the cystic duct. The common duct immediately below the junction of the cystic and hepatic ducts appears to be of normal caliber, but from this point it gradually becomes narrower, having a thread-like appearance in the lower part of its course. It ends in a well-marked papilla on which no orifice could at first be seen with the aid of a lens; but on pressing the gall-bladder, bile passes easily into the upper part of the duct, the passage from this point downwards into the duodenum being slower.

Spleen measures 2¾ in. longest diameter; 1¾ in. transverse diameter; weight, ¾ oz. Kidneys appear normal, 14 grammes. Intestines normal, and contain cream-colored mucus; no blood-corpuscles. Microscopically.—Several sections examined appear perfectly normal, in others there is slight biliary cirrhosis.

The duration of life (3½ months) is longer in this than in the other published cases, which may be accounted for by the complete absence of hemorrhages.

The case further shows, as Dr. Thomson has pointed out, the close resemblance between those cases with previous ducts and those where the obliteration is complete.

THE IMMUNIZING AND CURATIVE EFFECTS OF ANTITOXIN.

W. M. Donald (*Medicine, 1876, ii, 714*) after a critical analysis of his cases, draws the following conclusions:

1. Antitoxin in immunizing doses is absolutely harmless.
2. Immunizing doses *do* immunize for a period of at least several weeks.
3. Loeffler bacilli may grow in the throat of an immunized person without causing diphtheria.
4. It is often impossible to diagnosticate mild cases of faucial irritation without bacteriological examination.
5. Antitoxin seems to have some helpful influence in cases of faucial irritation due to cocci development.
6. In true Loeffler diphtheria, antitoxin is harmless and is also quickly curative.
7. The minimum dose should be 600 units in cases of moderate severity in children from six to ten years of age.
8. Injections deep into the muscular tissue are as safe and satisfactory as are subcutaneous ones.

A CASE OF UMBILICAL URINARY FISTULA.

W. H. Brown reports (*Quarterly M. J., 1896, iv, 368*) the case of a boy, aged seven, with the history that since birth the bulk of his urine had dribbled through the umbilicus. Voluntary micturition occurred at the ordinary intervals of time, when quite as much urine escaped by the fistula as along the natural passage. In all other respects the child was healthy. The ordinary umbilical configuration was replaced by a single transverse slit. The surrounding skin was puckered into folds radiating outwards for about one inch from the opening, and it was perfectly natural and healthy. On making firm pressure above the pubes, a drachm or two of normal urine could be squeezed from the opening, through which a probe was easily passed downwards into the bladder and made to touch a catheter introduced *per urethram.* The prepuce and urethra were normal in size, and no obstruction was offered to the passage of a No. 7 catheter. There was no history of urinary trouble during any period of life, and examination showed that any cause of obstruction, such as polypus or stone was entirely absent.

After ether had been administered, an incision was made completely encircling the puckered skin, and this was dissected upwards toward the opening. A stout director was then passed through this toward the bladder, and a silk ligature firmly tied round beneath the little flap of free skin to prevent any outflow of urine. The skin incision was then prolonged downwards for about one and a half inches in the middle line toward the pubes, and the duct, as identified by the director in it, was freed from surrounding parts for the distance of one and three-quarter inches. A second ligature was now applied, the director being slowly withdrawn whilst it was being tightened up, thus occluding the duct; the free portion above the ligature was cut off. The cut end was then thoroughly cleansed, inverted and closed by a continuous silk suture, and the stump allowed to retract. This was unfortunately followed by a very free hemorrhage from the deep part of the wound, and in trying to arrest this the peritoneum, which had previously not been touched, was unavoidedly opened, and coils of small intestine presenting added to the difficulty of finding the bleeding points. Eventually this was accomplished, the peritoneum was sutured with a continuous gut suture, and the skin incision closed in the usual manner. The after-progress of the case was satisfactory, and therefore uneventful. A catheter was used frequently for the first four days, after which micturition occurred painlessly and unaided.

THE IMPORTANCE OF AN UNDERSTANDING OF MIDDLE EAR DISEASE.

Richard Frothingham (*Med. Rec., 1896, l, 187*) says that children especially are neglected. Their little ears may ache ever so hard, but so long as the general practitioner assures the family that "pain will pass away or the ear discharge, and in children discharge from the ear is harmless and usually takes care of itself," the parents are satisfied. Adults stand a certain amount of pain; then, their patience becoming exhausted, and having obtained no relief, they seek other advice. Ear disease in infants is often overlooked, he says, and mentions among others the following instructive cases:

Girl, aged twelve. Bad pains in the left ear for three weeks. The ear had been syringed and poulticed for over two weeks. The child was examined by her medical adviser, his verdict being that the "ear is nearly ripe; go on in the same way and the ear will soon break." An examination revealed a normal drum membrane. A very bad tooth was discovered. The tooth was extracted and her sufferings ended.

The other patient was a boy, four months old, a very badly nourished and weak child.

History.—The child did very well until he was about four weeks old, except that he had "snuffles." Then the child commenced to be very fretful and restless, cried a great deal, and never slept soundly. The child became very much emaciated. Three weeks before his right ear commenced to discharge, but there was no improvement in his general condition. All this time the family physician was in constant attendance. At the appearance of discharge from the ear he said: "Let the ear alone and the child will soon be well now." For all this the child was steadily going down hill. Two weeks later a throat man, who does considerable ear work, was consulted. At this time there was a profuse muco-purulent discharge from the right ear. As after his having treated the child for a few days there was no improvement in the child's restlessness or general condition, he referred the case to the writer for an opinion as to the cause of the baby's apparently continued pain. On examining the right ear a large perforation of the drum membrane, with free discharge and no bulging, was found. The left drum membrane was very much bulged and pus could be seen through it in the tympanic cavity. An immediate paracentesis of the left drum membrane was advised. The doctor, seeing no indications for paracentesis, did not operate. The child's general condition was much worse, but the condition of his ears remained unchanged. Next day a curved incision of the drum membrane was made, upon which there was free escape of muco-pus. The child quickly became quiet and went to sleep. The child rapidly regained his strength.

PEDIATRICS

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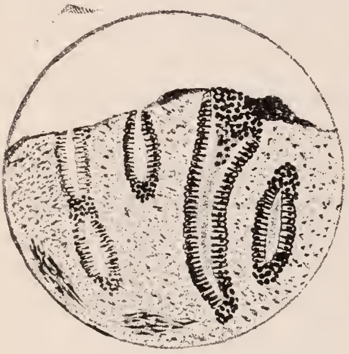
Original Articles.

THE UMBILICAL GROWTH OF INFANTS AND YOUNG CHILDREN.

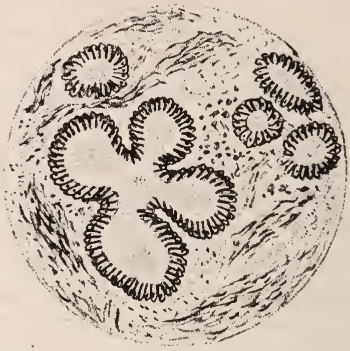
By Charles A. Morton, F.R.C.S., Eng.
Bristol,
Surgeon to the Bristol General Hospital, and to the Hospital for Sick Children and Women.

An infant, E.N., aged seven months, came under my care as out-patient at the Bristol General Hospital, in April, 1893, with a small umbilical growth, of about the size of a pea. It was of a bright red color, sessile, and the summit was covered with what looked like skin. It had been present ever since the separation of the cord. The infant had been brought to the hospital twice every week for three months as a casual patient, and solid nitrate of silver had been applied, and ointment and strapping used. No orifice could be seen on the surface of the growth, and there had been no fæcal or urinary discharge, but some watery oozing occurred from its surface. I ligatured the base and snipped it off. The point of section healed readily. Microscopic sections show a center of involuntary muscle fibers and a periphery of glands like Lieberkuhn's in the intestine. The surface epithelium, if there ever was any, had disappeared. The glands opened on the surface. My second case was that of a child a few years old, who was sent to me at the General Hospital, last December, by Mr. Lydell, under whose care she had lately come. In the umbilical depression was a very red, smooth, round, slightly pedunculated growth, about the size of a pea. It could only be seen with considerable difficulty, as it was so humid in the depression.

There was constant "weeping" from it, but no discharge of urine or fæces. It had been cauterized and had had caustic applied to it at another hospital. After dilating the umbilical opening with forceps, I was able to get a catgut ligature around the base (which I found on one side was covered with skin, but the other outer with red mucous membrane) and singe it off. It had not grown from the center of the umbilical depression, but more from the right side. The point of section quickly healed. Microscopic examination of the growth shows that it has essentially the same structure as the first case—that it is composed of glands of the type of Lieberkuhn's glands and of unstriped muscle fibre—but the glands in this tumor penetrate quite into the center, and are not present in the periphery alone, as in the first case. In some parts of the section, columnar epithelium can be seen on the surface of the growth. The gland tissue in the center of the section and in portions of the periphery reminds one very much of an ordinary innocent adenoma of the intestine, such as the glandular polypus. There is an abundance of muscle fibre scattered about gland tissue. Fig. A represents the periphery of the section (which was made right across the growth), and shows gland tubes like Lieberkuhn's for the opening on the surface, and some bundles of muscle fibre. Fig. B is from the center of the growth, and shows the arrangement of gland tissue and bundles of muscle fibre present in that part.



A.



B.

The growth then resembles small intestine in structure, and, as has been pointed out by Bland Sutton and others, probably arises in connection with the vittelo-intestinal duct. It is certainly an adenoma, but it is more than an adenoma for it contains an abundance of unstriped muscle fibre. It is like most of the growths arising in fœtal remains, complex in nature. By some it has been called a mucous polypus, and by others "a granulation polypus from irritation," but such names are clearly incorrect. The best description of the growth which I can find is in Bland Sutton's book on Tumors[1]. Colman showed a specimen of it at the Pathological Society in 1882.[2] He called it "adenomatous polypus of the umbilicus." It was the size of a split pea and distinctly pedunculated, and had been removed from a child aged two months, but was first noticed when the infant was fourteen days old. It was composed of a core of ordinary unstriped muscle and covered by a thick layer of mucous membrane which contained Lieberkuhn's follicles and adenoid tissue. Morris[3], of New York, points out that intractable eczema around the umbilicus in young children may be due to the irritating secretion from some glands, which exist in a little patch of mucous membrane within the umbilical depression, which he recommends should be seized by a tenaculum and removed. A picture of a section of such a patch, which he gives, might have been drawn from the section of my first case, so closely does it resemble it. He attributes the origin of these little patches of mucous membrane to the vitteline duct.

Polypoid growths at the umbilicus are sometimes associated with an opening from which fæces or urine discharge, and from failure of the vittelo-intestinal duct or the urachus to close. A cyst also is occasionally found at the umbilicus, lined with a thin skin exactly resembling small intestine. It is developed from the vitteline duct[4].

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[1] Page 389. [2] Trans. Path. S., Vol. xxxix, p. 110.

[3] Lectures on appendicitis and notes on other subjects, 1895, p. 92.

[4] Bland Sutton "Tumors," page 389.

* * *

ON A VARIETY OF PURPURA HÆMORRHAGICA.

(Henoch's Purpura.)

By G. A. Sutherland, M.D., Edin.,
London.

AMONGST the many varieties of the hæmorrhagic diathesis in children, none presents greater difficulties than that known as Purpura Hæmorrhagica, or Morbus Maculosus Werlhoffii. Certain of the cases are secondary to some acute specific fever or other infective disorder; but a large number remains, which must be considered at present as primary or idiopathic, in the absence of any knowledge of their ætiology or pathology. Until this knowledge is forthcoming we must be content to classify them according to their clinical signs and symptoms. Proceeding on these lines Henoch[1], in 1874, recorded a series of cases characterized by purpura with colic, vomiting, intestinal hæmorrhage, rheumatoid pains, and, less constantly, swelling of the joints. In 1876 Couty[2] published some more cases, the leading symptoms of which were purpuric outbreaks, gastro-intestinal troubles, and cutaneous œdema. He regarded the affection as nervous in origin, and dependent on an irritative lesion of the sympathetic system, comparable to some extent to that seen in lead poisoning. In 1890 Dusch and Hoche[3] made a careful study of all the recorded cases and came to the conclusion that the form of purpura described by Henoch is to be regarded as a well defined and distinct affection. In Germany and in America this disease is now known by the name of "Henoch's Purpura," but in England it does not seem to have attracted much attention. Two very typical cases were recorded by Bristowe[4] in 1885, under the title "Purpura Urticans," as they appeared to him to resemble the affection described by Willan under that name. The patients were boys, aged respectively ten and fifteen years, who suffered from abdominal pain, melæna hæmaturia, and a purpuric eruption on the extremities.

The following cases are recorded for the purpose of adding evidence in support of the view that Henoch's Purpura is a distinct clinical entity, and also of supplying some further clinical observations. The patients were admitted into Paddington Green Children's Hospital, under the care of Dr. Leslie Ogilvie, to whom I am indebted for permission to publish the cases. My best thanks are also due to the house surgeons, Dr. John McGregor, Mr. G. H. Lock, and Dr. Lewis Moysey, for the careful clinical records.

Case 1.—A male child, aged three years and nine months. Abdominal pain, vomiting of blood, melæna, purpuric eruption, hæmaturia and albuminuria, absence of knee jerks, recurrent attacks, recovery.

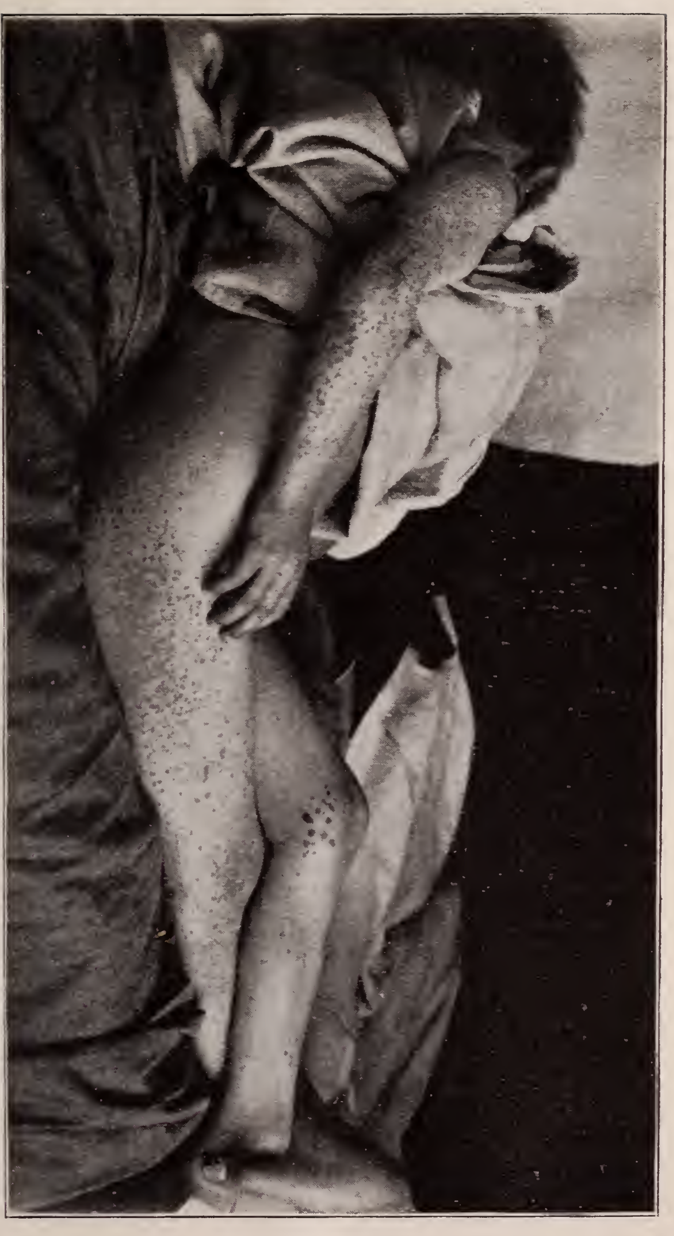
This boy was admitted to hospital on December 10, 1894, with the following history. Three months previously his mother noticed a rash on his skin which she considered to be due to measles. Since that time the boy had been dull and languid, and complained at times of pain in the stomach. Two months ago he began to suffer from sickness after food, and a rash came out on his arms and legs which had appeared and disappeared several times since. A few days before admission the boy became worse. He was drowsy and lethargic, complained of abdominal pain, vomited some chocolate-colored material and passed bright red blood *per rectum.* These symptoms continued until he was admitted, the abdominal pain in particular being very severe.

The patient was a healthy child when born and was suckled for eighteen months. Since then his diet had been varied and had included plenty of fruit and vegetables. His previous health had been good, and there had not been any hæmorrhage from the nose or gums, or any sign of a hæmorrhagic tendency until the present illness. There was nothing of importance in the family history.

On admission the boy was well nourished and of a good color. There was an eruption over the arms, affecting mainly the extensor surfaces, and on the feet and legs, most abundant over the ankles and the dorsal surfaces of the feet, but also on the soles. A few spots were observed on the back, the buttocks, and the abdomen. The eruption was hæmorrhagic in character, the spots varying in color from a deep red to a pale brown. They had well defined borders, did not disappear on pressure, and were not elevated above the surface. The gums were healthy and the tongue was coated with a thick white fur. Physical examination of the internal organs showed nothing abnormal, except that the boy complained of pain when pressure was made on the abdomen. Rectal examination proved negative. On the day after admission the bowels were well moved by calomel. The motion was semi-solid, slightly offensive, and dark brown in color, but contained no mucus or blood. Later in the day there were three evacuations of blood from the bowel, partly bright red in color and partly consisting of small black clots. He complained of pain in the umbilical and right iliac regions. The urine was scanty in amount but contained no blood or albumin. Dr. McGregor, the house surgeon, drew my attention to the fact that he was unable to obtain any patellar reflex, an observation which my own examination confirmed. Two days later the boy became extremely restless in the evening and cried out with severe abdominal pain, which was relieved by a dose of laudanum. The bowels were moved by an enema, and a dark, extremely offensive motion was passed which did not contain blood or mucus. A slight trace of albumin was present in the urine.

The progress of the case during his four and a half months' stay in the hospital may be summarized as follows: Skin hæmorrhages continued to appear abruptly at uncertain intervals and presented great variety as to color, form and distribution. Sometimes these spots were bright red, at other times pink, and again brown in color. They did not disappear on pressure, faded slowly, and staining of the skin was very persistent, with occasionally slight desquamation over the areas affected. The spots were small, sharply defined, and not raised above the surface, or papular and elevated, or diffused and erythematous, or at times urticarial in appearance. There was no pain or irritation accompanying the eruption. The distribution, taking the various attacks together, affected practically the whole of the surface of the body, including the lips and the mucous membrane of the mouth, the nostrils, the eyelids and conjunctivæ, and the inside of the ears; but the parts chiefly and most frequently affected were the extensor surfaces of the arms, the buttocks, the front of the legs and the dorsum of the feet. On twenty-five different occasions there were fresh hæmorrhagic outbreaks on the skin.

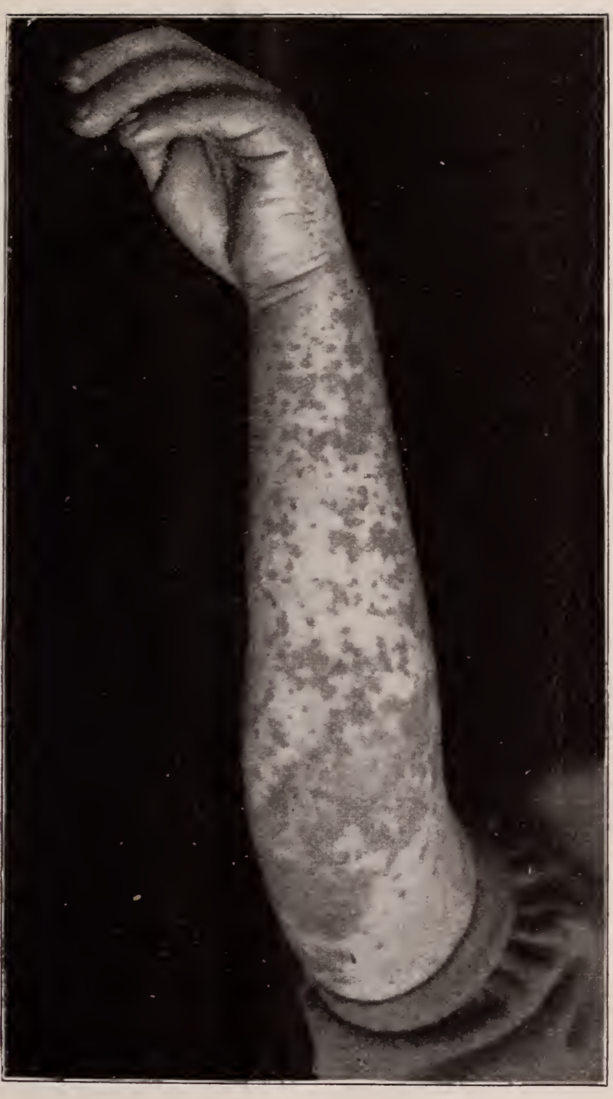
Attacks of severe abdominal pain occurred eleven times, and were accompanied or followed by vomiting of blood-stained matter, or the passage of blood from the bowel, more frequently the latter. This pain was paroxysmal and griping in character and was referred to the umbilical, the epigastric,



or the right iliac regions. During an attack the abdomen generally was tender on pressure. The act of vomiting or the passage of blood from the bowel gave temporary relief, and occasionally the action of an enema gave a similar result. The onset of an attack was usually preceded by a period of drowsiness, lethargy, and irritability. On one occasion cerebral symptoms supervened, the patient struggling, screaming and complaining of pain in his head, which he was unable to localize. This attack lasted for a few hours and was not repeated.

The urine, during the first three weeks of the patient's stay in hospital, contained a small quantity of albumin, but no blood; during the following month blood was present twice, and after that it continued to appear in increasing amount and frequency until a short time before his discharge. The staining of the urine varied in color, from a slight smoky tinge to a bright red, and even when the guaiac test gave no blood reaction, red blood cells could usually be detected by the microscope. A distinct quantity of blood was present twenty-seven times out of a total of fifty-two examinations. The amount of albumin seemed larger than the blood present would always account for. Under the microscope granular, hyaline and blood casts were seen in great number, and also at times many large epithelial cells from the bladder and kidneys, urates and oxalates. The amount of urine passed was normal. Examination of the blood proved negative, and no retinal hæmorrhages were detected.

The boy's general condition throughout the illness was by no means unsatisfactory, and far less did it correspond with the somewhat grave local conditions described. He was slightly anæmic, but otherwise looked well, and apart from the periods of drowsiness accompanying the hæmorrhagic attacks, he was as a rule bright and cheerful. The temperature during the first week was slightly raised, but afterwards all pyrexia ceased and the morning temperature was frequently subnormal, 96°–97° F. A point of some interest was the absence of both knee jerks during the first seven weeks of his stay in hospital. At the end of that time they were elicited, at first on the right side, and a few days later on the left, and from that time the reflex gradually became more and more active. When discharged on April 27, 1895, he was in very good health, the only remaining evidence of disease being a slight



trace of albumin in the urine. He was seen again in June, 1896. There had been no fresh hæmorrhagic outbreaks or attacks of abdominal pain. The urine was strongly acid, and contained albumin and oxalates. No tube casts or blood cells were detected.

Case II.—A female child, aged seven years. Abdominal pain, vomiting of blood, melæna, bleeding from the nose and gums, purpuric eruption, albuminuria and hæmaturia, absence of knee jerks, recurrent attacks, recovery. Relapse two months later, similar symptoms, intussusception, suppurative peritonitis, death, necropsy.

The girl was admitted to hospital on the 11th of February, 1895. Five weeks previously she returned from school complaining of pain in the stomach, became sick, and vomited blood. Dr. E. W. Whitlock, of Kensington, was called in and has kindly supplied the following notes: The patient's temperature was 103° F., her pulse 130 to 140, and she was suffering from bleeding from the bowel, accompanied by severe epigastric pain. Over the legs and arms there were erythematous-looking patches, varying in color from a bright to a dark purple red or pale brown. Other hæmorrhages occurred during this attack, namely, from the gums and nose, and fresh petechiæ appeared on the trunk and limbs. The illness caused anxiety chiefly from the intense epigastric pain and the great loss of blood from the bowel. There was no albumin or blood in the urine. The hæmorrhages gradually ceased; but three weeks later she had a relapse and was sent to hospital.

The child's previous health had been good and she had had no special illness. There was no inherited tendency to any form of the hæmorrhagic diathesis, and the family history was good.

When admitted the patient was fretful, disinclined for any exertion, and complaining of pain in the umbilical region. She was thin but of good color. Over the extensor surfaces of the arms and forearms were numerous brownish spots like fading petechiæ. A bruise-like mark existed over each elbow, and numerous small hæmorrhagic spots were present on the feet and ankles. The throat was slightly congested, the tongue furred, and the gums were covered, near the teeth, with a thin white film, which came off easily and left a raw bleeding surface. Nothing abnormal was detected on abdominal examination. The knee jerks could not be elicited. The urine contained a large amount of albumin and urates, but no blood, and on microscopic examination many blood, granular, and hyaline casts were visible. The other internal organs appeared to be healthy.

The course of the illness, during a stay of three months in the hospital, was as follows: Fresh purpuric eruptions appeared on eight occasions, and were at different times macular, papular, erythematous, or urticarial, but unaccompanied by pain or irritation. They affected chiefly the arms and legs, and during the time that the eruption was fading, a branny desquamation was occasionally observed. Abdominal pain of a marked character was complained of two or three times, but no hæmorrhage from the bowel occurred during the patient's stay in hospital. Three days after admission the urine contained blood, and hæmaturia persisted in varying amount until the week of the patient's discharge. Its occurrence was noted 46 times out of 54 examinations. The urine was usually acid, of a specific gravity of 1020–1025, and normal in amount. Tube casts in great variety and epithelial cells from the bladder and kidneys were often found. At the end of two months the patellar reflex, which had been absent since admission, was obtained on both sides, and was not again lost, although it never became as active, as normal. There were no retinal hæmorrhages, and examination of the blood proved negative. The temperature during the first two months rose at night to between 99° F. and 100° F., but there was never any marked pyrexia, and during the last three weeks the temperature was normal. The child's general health improved steadily, notwithstanding the loss of blood by the kidneys; she gained thirteen pounds in weight, and when discharged, on the 6th of May, she was fat and rosy. There was still a trace of albumin in the urine; but when she was seen a month later this also had disappeared, and there had been no recurrence of the other symptoms.

The patient was readmitted on August 21, 1895, having been seized a month previously with sickness and abdominal pain followed by melæna, hæmaturia, and skin hæmorrhages. She was pale but not markedly anæmic. Numerous purpuric spots of the macular and papular type were present over the extensor surfaces of the elbows and knees, on the soles of the feet, and to a less extent on other parts of the body. There was a faint pulmonary systolic murmur, but the heart otherwise was normal. The tongue was coated and the breath foul. Abdominal examination revealed nothing abnormal. The motions were loose and offensive, and contained some blood-stained mucus. The knee jerks could not be elicited. From August 21st until September 5th the child continued to have attacks of bleeding from various organs, similar to those described in the previous illness. There was vomiting at times, and diarrhœa, with offensive motions, was often present. Abdominal pain of a spasmodic character occurred at short intervals. It was referred to the umbilical region, and was so severe as to require frequent doses of morphia in order to relieve the patient's sufferings. The abdomen was soft and flaccid, and could be thoroughly palpated; but no localized thickening or tenderness could be detected. Sometimes the examination would be interrupted by an attack of colicky pain, which lasted a few minutes and then passed off. Hæmorrhage from the bowel occurred on several occasions, never excessive in amount, and usually associated with more or less severe colic. Purpuric spots appeared and disappeared, and at one time there were raised masses over the front of the knees and the back of the elbows, formed of hard papules as large as a split pea, and of a dark red or black color. The application of a hot fomentation to the abdomen produced a most extensive extravasation of blood in the abdominal wall. The urine contained a trace of blood, and a large amount of albumin, but signs of inflammatory renal disease, such as œdema, oliguria, etc., were entirely absent. The temperature during the period was normal as a rule, and never rose above 100° F.

On September 6th tenesmus became marked and continued irregularly for some days. This was accompanied by the passage of blood from the bowel in larger quantities than before, the amount on one occasion being six ounces. Thirst and sickness were prominent symptoms; but there was not obstruction of the bowels, the motions being frequent, loose and offensive. The temperature rose to 102° F. and continued to fluctuate considerably during the following week. On the 17th of September she was removed from the convalescent home to the hospital. For the next two days the temperature fell steadily and no more hæmorrhage took place, but on the evening of the

19th a severe general convulsive seizure occurred and the temperature rose to 104° F. The fit lasted for three hours, the patient was quite unconscious, and blood was passed *per anum.* During the attack the knee jerks were exaggerated and ankle-clonus was present. The illness terminated fatally three days later, and during this period the girl remained in an almost comatose condition, the urine and fæces being passed involuntarily. At the moment of death vomiting took place, the matter ejected being stercoraceous in character.

An examination of the body was made eighteen hours after death. It was well nourished, and numerous purpuric spots and patches were visible on the trunk and extremities. On opening the peritoneal cavity some foul gas escaped. The whole of the peritoneum was covered with pus and lymph, and some five ounces of pus were lying free in the cavity of the pelvis. The small intestine was distended and the lower bowel was collapsed and empty, with the exception of the rectum, which contained fæces. At the ileo-cæcal valve there was an intussusception, the cæcum and part of the ileum being invaginated into the colon for about four inches. The mass thus formed was surrounded by adhesions, and in reducing the intussusception the bowel was ruptured in several places. The part of the intestine involved was empty, the walls were much thickened, black, hæmorrhagic and gangrenous in appearance. The vermiform appendix was also involved, but its walls appeared to be simply congested and thickened. The wall of the rest of the colon was normal in appearance, except for a number of small, superficial, clean-cut ulcers on the mucous surface, without any local thickening, but with a leash of congested vessels surrounding each ulcer on the peritoneal surface. The kidneys were slightly larger than normal and appeared to be fatty. The liver was large and fatty. The brain was generally congested and œdematous, but otherwise normal. Careful examination revealed no hæmorrhage or other sign of disease in the rest of the body. Some of the diseased tissues were laid aside for further examination, but owing to the advanced stage of decomposition and imperfect preservation they were not of much value. This applies more particularly to the part of the intestine intussuscepted. Regarding the kidneys, I am indebted to Mr. J. Jackson Clarke for the following report: "The sections of the kidney showed a normal structure except in one particular, namely, that there was blood in the lumina of many of the tubules. This was especially marked in those of the medullary portion, *i. e.*, in the collecting tubes."

The occurrence of intussusception is not common in connection with purpura hæmorrhagica and calls for special comment. As the intussusception was not recognized until after death, it is difficult to trace back the symptoms dependent on the condition, but the following facts may be mentioned: About a fortnight before the patient's death, tenesmus, which had been occasionally present during the colicky attacks, became very pronounced, and was accompanied by a rise of temperature to 103° F., and the passage of much blood from the bowel. There was no complete obstruction, but the motions were loose and offensive. Tenesmus, irregular pyrexia, melæna, and diarrhœa continued for a week, followed by slight amelioration for three days, and then the patient had a prolonged convulsive seizure, after which she remained in a more or less unconscious condition until her death. The presence on post mortem examination of suppurative peritonitis and a ruptured intussusception has led me to explain these clinical symptoms in the following manner: The fatal attack was probably introduced by hæmorrhage into the wall of the intestine near the cæcum, leading to paralysis in the affected part and to increased muscular contraction in the adjoining portion of intestine. As the result of these strong muscular contractions the sound part of the intestine became invaginated into the paralyzed and hæmorrhagic portion. The obstruction in the bowel was not complete, as evidenced by the passage of fæces; but the circulation in the intestinal wall was interfered with to such an extent that first of all gangrene and later rupture of the bowel took place, an occurrence which was marked clinically by a convulsive seizure and was followed by suppurative peritonitis and death.

I do not bring forward this explanation on purely theoretical grounds, for the condition of the parts at the necropsy was strongly confirmatory of it, and further, it has been already suggested by Vierhuff[6] in connection with a somewhat similar case. Vierhuff's patient was an adult who, in the course of an attack of purpura hæmorrhagica with intestinal hæmorrhage, developed all the signs of intussusception.

Treatment failed in reducing the intussusception, but the patient recovered after passing the affected portion of bowel, which had separated in course of time. From this case Vierhuff infers that he has found in purpura hæmorrhage a new cause of intussusception, and assumes that a hæmorrhage had occurred in a part of the bowel, leading to paralysis and dilatation and the consequent invagination of the upper healthy and contracting segment of bowel. Another case of interest in this connection has been recorded by Dr. William Milligan.[6] A man, aged fifty-three, while suffering from purpura hæmorrhagica, was suddenly seized with pain in the right lumbar and iliac regions, which persisted until his death on the following day. At the necropsy, the lower half of the small intestine was found to be extremely congested, and towards the ileo-cæcal valve was almost black. The cæcum and ascending colon were also of a very dark color. A large quantity of blood, partly fluid and partly clotted, was present in the lower two feet of the small intestine, in the cæcum, and in the ascending colon. On comparing these three cases, it will be noted that all the patients were suffering from purpura hæmorrhagica with extensive hæmorrhage in and around the cæcum. Dr. Milligan's patient died soon after the onset of intestinal hæmorrhage, and before further developments had time to take place. From the clinical symptoms in Dr. Vierhuff's case, he diagnosed hæmorrhage into the wall of the intestine and intussusception as the result, and his opinion that in purpura hæmorrhagica there lay an unsuspected cause of intussusception, is strongly supported by the signs presented during life and after death in the case I have related at length.

Case III.—A female child, aged ten years. Abdominal pain, sickness, epistaxis, melæna, purpura, hæmaturia and albuminuria, articular pain and swelling, recovery.

This patient was admitted to hospital on February 11, 1888. A month previously she returned from school complaining of "pain in the stomach" and sickness. Severe attacks of abdominal pain continued to recur at irregular intervals, and were accompanied or followed by sickness. There had been no vomiting of blood, but bleeding from the nose occurred at times during an attack. Pain and swelling of the knees and headache had also been present. A week after the onset she noticed an eruption of red spots on the legs which gradually faded away. A fortnight later there was another similar eruption, this time affecting the arms and the legs. The spots had never been painful, but a feeling of itchiness was sometimes produced by them.

Her previous health had been good. She subsisted chiefly on mutton, soups, eggs, porridge, cornflour and tea, and during the fortnight before admission she had plenty of milk and oranges. There was no evidence in the family history of the existence of a hæmorrhagic diathesis.

The patient was a delicate looking child, with a somewhat pasty complexion, but no evidence of anæmia. There was no œdema, or jaundice, or affection of the gums. Over the forearms and the lower parts of the upper arms, chiefly on the extensor surfaces, the dorsum of the feet, and the front of the legs and thighs, there was a diffused eruption of spots, varying in color from a bright red to purple, and in size from a minute speck to half an inch in diameter. The urine was acid and contained blood and albumin. Microscopic examination revealed the presence of blood cells and casts, numerous urates, and oxalate of lime crystals.

On February 15th, four days after admission, there was a fresh outbreak of purpuric spots over the right arm and the buttocks, unaccompanied by pain or any other symptom. The spots were bright red in color, for the most part small, and faded away in the course of a few days. Similar outbreaks occurred as follows: On the 16th on the arms, on the 19th on the legs and thighs, on the 25th on the forearms; and on March 1st on the extensor surface of the elbows. The patient was seized with severe abdominal pain on February 26, the day after one of the purpuric outbreaks, and this was soon followed by the passage from the bowel of a large quantity of blood. The pain recurred several times that day, and was accompanied, on three occasions, by a discharge of blood *per rectum.* Sickness occurred twice, the vomited material being a greenish fluid. During the following night there were three more bloody evacuations, but after that no further recurrence took place while the patient remained in hospital. She was left somewhat anæmic after this attack, as a considerable quantity of blood had been lost. Rectal examination showed nothing abnormal. The slight amount of blood in the urine, which was present on admission, soon disappeared entirely; but the albumin persisted, varying from one-third to one-twelfth on boiling, and when she left there was still a distinct trace. A small subconjunctival hæmorrhage was noticed in the right eye on February 29th. Examination of the blood proved negative and no retinal changes were perceptible. The temperature was normal throughout. When discharged on March 12th she appeared to be in fairly good health.

This form of purpura hæmorrhagica is a chronic affection, arising without obvious cause or antecedent illness; characterized by recurrent attacks of hæmorrhage in the skin, the stomach, the intestine and the kidneys, by severe colicky pains, and sometimes by pains in the back, limbs, and joints, and terminating usually in recovery, rarely in death.

The onset of the illness is frequently sudden. The child is seized with acute abdominal pain, or with violent sickness and vomiting, or a crop of spots appears on the extremities. In other cases there is a preceding period of a few days' duration, when the patient complains of drowsiness, general aching pains, and malaise.

The symptoms affecting the alimentary tract are always of a marked character. The abdominal pain is severe, of a colicky character, and is referred to the umbilical, the epigastric or the right inguinal region. The patient cries out, tosses about, presses his hand on the abdomen or presses the abdomen on the bed. Sickness soon follows, of an exhausting nature, and frequently the vomited material is blood-stained or consists of blood entirely. The tongue rapidly becomes thickly coated, the breath is offensive, and all appetite is entirely lost. At first constipation is marked; but in a few days, with or without the employment of aperient medicine, diarrhœa sets in, the motions are offensive and blood-stained, and soon pure blood is passed, it may be in large quantity, from the bowel. The act of vomiting, or an evacuation of the bowels, seems to give temporary relief to the abdominal pain. The abdomen is usually retracted, tenderness may be present on pressure over the region of the colon, especially if tenesmus is a marked feature, as sometimes happens, but as a rule there is nothing abnormal to be detected on physical examination. Such an attack may last for a few hours or a few days, and then there is a gradual remission of the symptoms until the next attack.

Hæmorrhage from the kidney appears later in the course of the affection, and is apt to be persistent in character, although the amount of blood passed varies from time to time with the remission and exacerbation of the other symptoms. Albuminuria is, of course, present, and sometimes this seems to depend partly on renal irritation and not merely on the presence of blood. Tube casts are present in great variety, epithelial, blood, granular and hyaline. The other symptoms of acute nephritis are absent as a rule, but in some cases a real nephritis is established and becomes permanent.

The skin hæmorrhages differ in some respects from those met with in the common forms of purpura. They are, as a rule, lighter in color and of a blotchy character, so that the eruption might easily be confounded with that of measles. The distribution is also rather characteristic, a special preference being shown for the extensor surfaces of the large joints—namely, the hips, the knees, and the elbows. The type of the eruption varies greatly at different times. There is often a diffused erythema, with raised wheals of an urticarial character, which subside later into papules or nodules with a dark center. Dr. Bristowe was so much struck by this urticarial character that he described his cases as "Purpura Urticans." The eruption appears suddenly, now in one place and again in another, is not accompanied by pain or irritation, fades slowly, and is often followed by a fine, branny desquamation. Continuous pressure, or injury, or hot applications, may produce extensive extravasations of blood in the subcutaneous tissues. In marked cases the distribution of the eruption may be universal over the skin, and small hæmorrhages may also be detected in the mouth, the nose, the conjunctivæ, and the ears.

The joints were found to be affected in the majority of Henoch's cases. The occurrence of pain and tenderness in the joints, swelling in or around the joints, and œdema of the hands and feet, led him to associate this form of purpura with rheumatism, although he is not prepared to say what the connection is. Dusch and Hoche, in an exhaustive article on "Henoch's Purpura," give a synopsis of forty-four published cases, and in only five of these were the joints unaffected. Out of four cases I have had the opportunity of observing carefully, in only one was there a history of pain and swelling affecting the joints. During the whole course of treatment in hospital there were no arthritic manifestations, and the same re-mark applies to the two cases recorded by Bristowe. In Henoch's cases the joint symptoms were most marked at the beginning of the illness, were transitory in character, and were not associated with other definite rheumatic manifestations, such as would certainly have accompanied rheumatic arthritis in children. It seems probable, therefore, that the joint symptoms may be dependent on a general infective disorder, and may be compared to a similar condition found in connection with certain cases of scarlet fever, septicæmia, pneumonia, etc.

The course of the disease is not as a rule characterized by marked elevation of the temperature, and in many cases the temperature continues normal throughout. Sometimes there is considerable pyrexia at the outset of the illness, and a slight rise of temperature for a short time with each recurring attack. Marked prostration accompanies the commencement of the illness and the separate attacks, but in the intervals the patient recovers rapidly and the general health is quickly restored. Cultivation experiments and microscopical examination of the blood have so far failed to reveal anything abnormal. In addition to the hæmorrhages already described, bleeding may take place from the nose, the lungs, etc.; but there is not the same tendency to continuous oozing of blood, or the same general distribution of the hæmorrhages as one meets with in other varieties of purpura hæmorrhagica. I have never detected retinal hæmorrhage.

The prognosis is, as a rule, favorable, the disease tending to recovery quite apart from any special treatment. Death may occur from loss of blood, from nephritis, from intussusception, from perforation of an intestinal ulcer, or from intercurrent disease, pneumonia, etc.

No treatment has as yet been discovered which affects directly the course of the disease. Rest in bed, low diet, mild purgatives, combined with intestinal disinfectants, and opium or morphia to relieve pain and calm the system, represent the chief therapeutic measures which have hitherto proved beneficial.

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[1] Berlin Klin. Wochensch., 1874, No. 51, and Vorlesungen über Kinderkrankheiten, 1883.

[2] Gaz. Hebdom. 1876, xiii.

[3] Pædiatrische Arbeiten, 1890, p. 379.

[4] Med. Times, 1885, Vol. i, p. 599.

[5] St. Petersburg Med. Wochensch., 1893, No, 41.

[6] The Lancet, 1888, Vol. ii. p. 864.

AN UNUSUAL CASE.

By Joseph W. Williams, A.M., M.D.,
Paterson, N. J.

THIS brief history of a case occurring in my practice seems worthy of note, both on account of its unusual nature and as illustrating the well-known power which most children possess of surviving severe illness without any particular treatment, or, as one might more aptly say, in spite of treatment.

April 5, 1896, the subject of this sketch was delivered by me with forceps. Extraction was necessarily hurried on account of the mother presenting a large hematoma of the vulva, which ruptured and gave rise to severe hemorrhage.

The child was asphyxiated and respiration was established only after forty minutes hard work.

It was found, shortly after birth, that beneath the caput succedaneum, was a cephalhematoma covering almost the whole of the left parietal bone. The day after its birth the child developed a temperature of a variable type, averaging about 101° F. There was tetanic contraction of the muscles of the upper extremities and the head was held rotated to one side.

These evidences of central disturbance disappeared in a day or two, the temperature, however, still remaining quite high.

About the seventh day there appeared symptoms of septic infection at the umbilicus followed by a most intense icterus.

April 17th, there was noticed a decided edema, most pronounced in the lower extremities. There was almost total suppression of urine.

Dr. A. Jacobi, who saw the child next day, found the urine to contain albumin, a few blood cells, and some cells from the renal pelvis, and the diagnosis of acute Bright's disease was confirmed.

This condition of the kidneys disappeared in less than two weeks, without treatment of any kind.

April 25th, there being evidence of pus formation in the cephalhematoma I aspirated the tumor, and found the contents to consist of disorganized blood and pus; accordingly I made two incisions at the base of the tumor and inserted a drainage tube.

Under repeated irrigation with boric acid solution all evidence of the cephalhematoma, with the exception of the bony ring, had disappeared in less than a week, and the child's temperature, which had been elevated all this time, soon fell to the normal and remained there.

The next day there was found a double inguinal hernia.

A month or two later there was found a hydrocele of the cord on one side.

September 9th, I was sent for and found the child with a mild dysentery. The temperature was 102° F. in the rectum.

In two days the stools became more natural, but the temperature kept rising, soon reaching 105⅖° F. Treatment consisted of small doses of cupric sulphate and opium, together with irrigation of the large intestine.

On the fourth day I found in the stools fragments of membranous deposit which had become detached, probably from the large intestine, some of the fragments being over one inch in length, and one surface, evidently that which had been adherent to the gut, being studded with minute coagula of blood. These pieces of membrane averaged about a line in thickness.

Microscopically the membrane was composed of mucus, fibrin, pus cells, a few red blood cells, and epithelial cells of the columnar type.

By the sixth day these fragments of membrane were no longer passed; the stools became quite natural although somewhat watery, but still the temperature ranged about 105° F. Inunctions of guaiacol and glycerin reduced the fever quite promptly, but the effect was of such brief duration that not much good was accomplished by its use.

The child died on the ninth day. I might add that during all this time there were no decided cerebral symptoms and the stomach retained food nicely, the child taking the bottle quite greedily.

A CASE OF ACUTE MIDDLE EAR DISEASE SIMULATING INTRA-CRANIAL DISEASE—HYPERPYREXIA.

By George Carpenter, M.D.,
London.

ON June the 24th, 1895, Daisy R., aet. 14 months, was brought to me at the Evelina Hospital, by her mother, with the following account. The mother was subject to epileptic fits. On June the 20th, the child fell from a chair, and received a blow on the back of the head. She was not insensible after the accident, and cried for a short time only, but she was sick after the fall and twice the day following. After the mishap she remained in her usual health until the next day, when she was found to be drowsy, which, increasing, left her in the position presently to be described. On the evening of June the 22d the father, in aiming a blow at the mother, was supposed to have missed his mark and struck the child, who was on her lap. Whether he did so or not the child's ear was found red and swollen the next morning. According to one account twitchings were noticed in the arm and leg of the left side of the body on June the 21st, according to another they were not seen until two days later. Previous to the accident the child had been considered strong, and she had never been ill. When I first saw her she was quite comatose. Her face was pale, her extremities were cold, the pupils were equal and reacted to light, the pulse quick but not irregular, the respiration shallow and irregular, the head retracted, and the temperature 102 F. The left ear was red, and blistered in the upper half, and apparently bore silent witness to the severity of the blow received.

As she lay on the couch the following observations were made. There were slight kicking movements of the left leg, and twitchings now and again. There were very slight twitchings of the right hand, also of the left upper extremity and shoulder. The right leg lay in the usual position of ease and it remained, for the most part, quite quiescent; but one or two movements of the foot were detected. The abdominal muscles twitched. The movements were for the most part on the left side, but not entirely. The left leg was possibly more resistant to passive movements than the right. The arms were held across the chest, one was not more resistant than the other, but they were decidedly more rigid than the legs. Manipulation of the extremities certainly seemed to induce rigidity, though slight, on the left side. There was doubtful ptosis of the left eye, but apart from this nothing abnormal, as far as the ocular muscles were concerned, could be detected. An ophthalmoscopical examination revealed a healthy fundus oculi. Examination with the otoscope did not throw any fresh light upon the matter, and I did not detect any abnormality. Beyond slight rickety indications further examination proved satisfactory. She was taken into hospital and it was found that there were convulsive twitchings on *both* sides of the body.

Reflex movements of the limbs were obtained on stimulation; the child drew its left arm and leg away from the stimulus, but its right leg and arm were not withdrawn though there were contractions of the muscles on its application. Protruding movements of the tongue were noted. The left knee-jerk was very slight, sometimes unobtainable. The right knee-jerk, on the contrary, was rather brisk. Both arms and legs when raised from the bed fell down as a dead weight. The left arm was slightly rigid, and occasionally the eyes became fixed towards the left. My first impression was that I had to deal with a case of meningeal hemorrhage, the history of trauma being so very precise, and the onset of symptoms in sequence to this lent additional weight to the primary assumption. The fact that tubercular meningitis, in my experience, so frequently quickly succeeds a *history* of head injury in the young at once came to my mind and had the effect of dashing cold water on the first impression. However, fully recognizing the fact that, in some instances, it is a herculean task to decide between meningitis and meningeal hemorrhage in the young—common as meningitis is on the one hand, and rare as meningeal hemorrhage is on the other—for their symptoms are much alike, I thought it only right to seek the assistance of my colleague, Mr. Eve, with a view to a surgical opinion. Mr. Eve's opinion was that there were no sufficient indications for trephining.

Medical treatment was adopted, and an ice-bag applied to the head on the 25th. Her temperature at 6 p.m. was 104.8 F. and at 12 p.m. 106.6 F., when her pulse became very weak. During the day of the 26th she was slightly sick once. The right extremities were quite hot and the left very cold. Twitching was more marked on the left side of the body. The pulse was very weak. The temperature showed no signs of abating, and was 107.6 F. at 12 noon. The eyes were fixed and squinted at intervals. The following night the pulse was frequently imperceptible at the wrist, the breathing labored, the face twitching, and the extremities cold. She died at 10.45 a.m. on the 27th.

Autopsy.—Brain. On removing the skull-cap a small amount of cerebro-spinal fluid escaped which was blood-stained. The surface of the brain was not congested, nor was it sticky. The lateral ventricles contained no fluid. On section it appeared normal. On opening the petrous bone a localized collection of pus was seen in the middle ear. The tympanic membrane appeared healthy—there was no appearance of rupture. Patches of collapse were present in both lungs. The stomach was stained with dark brown patches of blood on the mucous membrane. All the other organs were free from disease and no tubercles were found.

Remarks.—This case teaches a lesson which should be ever before the mind when called to diagnose a case showing head symptoms, viz.: to examine the ears as a matter of routine. A habit thus induced will presently become automatic, and sooner or later the doctor practising this routine will be rewarded by saving a life unnecessarily doomed to destruction, and the patient will greatly benefit by his declining to accept as meningitis, without a protest, everything that stalks about in the garb of that disorder. I have, I believe, saved more than one case by a timely myringotomy and evacuation of the pus. Unfortunately, in my experience, pus, as in this case, cannot always be recognized through the tympanic membrane, and the appearance of the drum may not be sufficiently removed from the normal to warrant the suspicion of an acute inflammatory process "well alight" behind it. That such may occasionally prove to be the case must in no wise prove an excuse for the relaxation of vigilance, and in a doubtful case no single examination can be considered to have absolved the doctor from all responsibility on the score of ear mischief.

PRACTICAL NOTES.

Eczema in Children.—If it is due to a discharge from the nose or ear, a wash should be given to correct such discharge, and tonics given to tone up the system for resistance to these attacks. A wash to be relied upon is the following:

℞ Boric acid....................gr. xl.
Aquæ dest ....oz. ii.
M. Sig.—To be used ad libitum during the day.

Or one composed of:

℞ Sodii bibor.
Sodii bicarb.................aa gr. v.
Aquæ, q. s. ad ....oz. iii.

M. Sig.—To be used ad libitum during the day.

Internally, good results are obtained by giving syrup of the iodide of iron in doses of from five to twenty drops t. i. d. in water, taken through a glass tube.

Locally there is used in the acute cases a dusting powder composed of

℞ Boric acid,
Bism. subnit ....aa dr. ii.
Pulv. amyl.................dr. iv.

After the acute stage subsides, ointments are given which vary in strength, such as

℞ Ac. salicylic.............gr. v-xv.
Petrolati...................oz. i.
M. Sig.—Use locally twice daily.

For a child from three to eight months old, five to ten grains of salicylic acid are used to the ounce, and from eight months to a year or more, fifteen to twenty grains are used to the ounce.

For the more general eruptions of eczema over the whole body, an ointment is given as follows:

℞ Hydrarg. ammoniat......gr. v-xx.
Pulv. zinci oxidi.... ....dr. i.
Petrolati....................oz. i.
M. Sig.—To be used locally twice daily.

Where there is intense itching carbolic acid is used, from two to ten drops to the ounce of ointment. Sometimes this fails and cocaine is used, from two to five grains to the ounce.

The hands of the infant are to be wrapped up at night, and if the finger nails are long these are to be cut and kept clean.

As soon as the baby wets a napkin the cloth should be changed immediately, the parts wiped dry and a dusting powder of the above formula applied. A bath in washing soda solution is also useful to relieve the itching and burning, a half handful of common washing soda to a bucket or two of water, according to the age of the patient. If this bath is given too strong it will only aggravate the condition present, acting as a caustic.

In the chronic recurrent cases which have lasted for a year or two the following is a good ointment:

℞ Resorcin............gr. xv-xx.
Ung. picis liq.
Ung. petrolati........aa oz. ss.

Use twice daily; or sulphur may be used instead of the resorcin.

The ammoniated mercury, gr. xx to the ounce of petrolatum, or calomel, gr. xv to the ounce of petrolatum, are also useful, and if there is intense itching, carbolic acid or cocaine may here be applied with good results. The constitutional treatment also should be continued throughout.

It is a good idea to keep up the tonic treatment for several months after the disappearance of the lesion, and to warn the patients about the necessity of cleanliness.

For the condition of the scalp, produced by pediculosis, the hair should be cut off short so as to get right at the scalp, when the following ointment should be applied:

℞ Betanaphthol.
Sulphuris........aa gr. xx-xxx.
Petrolati..................oz. i.
M. Sig.—Rub thoroughly into the scalp.

Ova may be seen upon the hair, which should then be removed and destroyed—small, oval bodies, grayish in color, clinging fast to the hair. A bichloride wash is also useful, 1-2000 or 1-1000.

Ichthyol is another remedy highly recommended in chronic eczema—grains x-xv to the ounce.—Rosenberger, *Med. Council, 1896, i, 181.*

Eczema in Infants and Children.—S. M. Ward advises that the hair should be cut close to the head and the crusts softened either with oil or a flax-seed poultice. All tearing and forcible removal of the exudate must be prohibited. The following ointment may be used:

℞	Hydrarg. chlor. corros.	grs. ii.
	Bismuth subnit.	dr. ss.
	Resorcin	grs. x.
	Vaseline	oz. ss.
	Adeps lanae q. s.	oz. iss.

M. Sig.—Apply thoroughly to head twice daily and cover with a cap.

In cases when in addition to eczema capitis the face and body are attacked, do not employ ointments, but use, after a good lathering with ichthyol soap (5 per cent.)—a powder composed of equal parts of acetanilid and boracic acid combined with twice as much talc. or cornstarch. All possible sources of irritation must be corrected.

In acute cases solutions like the following are of more service:

℞	Sodii bicarb	oz. i.
	Extr. hamamelis	oz. ss.
	Ac. carbolici (sat. sol.)	gtt. xx.
	Spts. vini. rect.	gs. oz. iv.

Sig.—Mix and use a tablespoonful to a pint of hot water for bathing. Use freely and often. — *Med. Council, 1896, i, 179.*

Editorial.

LICHEN SCROFULOSORUM.

WHILE this form of lichen is extremely rare in this country and in England, if all cases casually observed should be put on record, it would not only show that its occurrence is more frequent than is usually claimed in text-books, but might also serve to aid in clearing up moot points connected with its etiology. That the diagnosis is not uniformly made with ease is well illustrated in the transactions of the New York Dermatological Society at its 249th regular meeting.

A child with a papular eruption was presented for diagnosis, and while none of the members regarded it as an instance of lichen scrofulosorum, it was admitted to bear a resemblance to this disease, and an enumeration of the other affections which it was thought to simulate included cacatrophia folliculorum, a neurotic form of eczema, lichen pilaris, erythematous eczema, a mild form of ichthyosis, prurigo, superficial eczema, a congenital condition allied to ichthyosis or a keratosis, eczema folliculare, *neurodermite circonscrite*, and congenital malformation. To be sure all this shows that the case was not of an ordinary type. In the usual form, however, one must distinguish the condition from the fine papular syphilide, from the punctate form of psoriasis and the small papular variety of eczema, from lichen ruber, and from keratosis pilaris. Nor does one invariably have the usual concomitant manifestations of the so-called strumous state as a guide. The glandular enlargements may be absent as well as other marked evidence of a scrofulous diathesis. Among the most pronounced features upon which the diagnosis is to be based are its rarity and accidental discovery, since the subjective symptoms are not such as lead to complaint. Then it seems to occur more often in boys, and the trunk is the part usually most involved, though children present lesions upon the extremities more frequently than do adults. The lesions do not exceed a pin's head in size, are slightly conical and surmounted by a loosely attached scale. The color of the papule is red at first, but soon becomes dull yellowish or may not differ greatly from the color of the surrounding skin. These small papules form in groups, patches, or in curved lines, representing segments of circles. This arrangement results from the fact that each separate lesion surrounds a hair follicle, and the latter are often disposed in this whorl-like manner. Confluent patches may often present the appearance of a persistent localized area of so-called goose-flesh, especially before any scales have formed.

Now what is the cause of this eruption? Crocker says: "The scrofulous predisposition." Hallopeau, Darier and others have seen in the small lesion an analogous condition to that of cutaneous tuberculosis. In favor of this view is the clinical fact, that many subjects of lichen scrofulosorum have, or subsequently develop, phthisis. Against it is the benignity of the affection, as compared with other skin tuberculosis. In this connection it is interesting to note that Dr. Haushalter presented on May 27th, at the *Société de Médecine de Nancy*, a boy of three and a girl of five years, who were subjects of the disease under consideration. In the boy the lesions had a coppery rose hue, some of them being covered with thin, yellowish epidermic crusts and others with little scales. Upon both sides at the angle of the jaw there was a ganglionic enlargement of pigeon-egg size.

In the girl, who was delicate, lymphatic and slightly rachitic, there were some forty discrete papules of hemp-seed size upon the face, which is, by the way, a most unusual situation for lichen lesions. Other smaller ones covered with scales were interposed, and upon the trunk and extremities were located similar lesions, while the left arm showed three intradermic nodosities covered with skin having a violaceous tinge, very suggestive of tuberculous gummata. Upon the back of the hand was a crusted, warty, tuberosity the size of a pea, recalling by its aspect tuberculosis verrucosa cutis.

At first the lesions upon the face were considered as an acneiform syphilide, but appropriate treatment made no impression upon them, and as many lesions upon the body were distinctly lichenoid and others manifestly tuberculous, the diagnosis lichen scrofulosorum was made. Scrapings from the lesions upon the face were inoculated in the peritoneum of a Guinea-pig, which died of tuberculosis after three months. A more recent experimental inoculation from the first case has not yet been reported upon. Of course this instance may not be accepted as one of true lichen scrofulosorum; but in view of the fact that Jacobi has claimed to have discovered tubercle bacilli in one case examined, it can but strengthen the suspicion that we have here in reality a low grade of cutaneous tuberculosis.

New and repeated experiments are necessary in order to definitely settle the question, and it is to be hoped that those who see much of the skin eruptions of early life may soon be able to supply the necessary confirmatory evidence.

Charles W. Allen, M.D., New York.

THE TEACHING OF PEDIATRICS IN LONDON.

AT this season of the year it is usual for the various medical schools in London to attract by advertisements and prospectuses as large a number of new students as possible, and for medical journals to fill a considerable proportion of their columns with advice to those who are on the threshold of their hospital curriculum.

We, as a journal devoted to the diseases of infants and children, are concerned only in that particular branch of the student's education, probably the most important, and, in London at any rate, the worst taught of any of the numerous subjects which the student has to study during his hospital career.

It can hardly be disputed that, in the interests alike of the public and of the profession, every newly-qualified man should commence practice with a thoroughly practical knowledge of the diseases of infants and children; not only because children's ailments constitute a very large percentage of the work of the general practitioner, but because of the livelong influence for good or evil which the medical treatment effects upon their future existence—nor indeed can it be maintained that the physical examination of children, which is so necessary for accuracy in diagnosis, is any easy accomplishment, or one which is likely to be mastered without considerable practice. It is then obvious that the General Medical Council of Great Britain should insist upon each and every examining body thoroughly testing the student's practical and theoretical knowledge of Pediatrics before granting him his Diploma, and that the authorities of every medical school should be called upon to provide facilities for its pupils to obtain the requisite tuition.

We at any rate are disposed to regard the diagnosis and treatment of children's diseases as amongst the most difficult of the varied duties of the general practitioner, to be learnt thoroughly only by special training, and it consequently behooves us to call attention to the attitude at present adopted towards this question by the examining and teaching authorities in London.

We must confess to a feeling of the keenest disappointment that none of the examining bodies in London insists upon the student taking out a course of special study of Pediatrics, and as we find that this grave omission in their schedules leads to an almost total neglect of the subject in the medical schools, we propose in future numbers to criticize the very imperfect arrangements which at present exist at the different general hospitals in London, and to suggest reforms which we consider are urgently required.

Society Report.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Held at St. Paul, Minn., Sept. 15 to 18, 1896.

A New Operation for Cleft Palate.—Dr. Truman W. Brophy, of Chicago, took the ground that this operation should be performed much earlier than had been the custom of surgeons heretofore. It has usually not been thought advisable to operate for the closure of cleft palate until the child has reached the age of two to five years. He maintained that when the operation was thus postponed the changes in the voice had become permanent. His operation consists in freshening the edges of the cleft, and by deep suture of silver wire fixed through a lead plate conforming to the palate, the edges of the cleft are drawn together and maintained until healing takes place. The technique of the operation was minutely explained. It is original with the author, and in his experience has proven most effectual.

Tonsillotomy by Cautery Dissection.—Dr. J. Homer Coulter, of Chicago, said that the tonsil had been one of the most prolific sources of discussion in medicine. In the past ten years over 600 papers have been written on that subject. The size of the normal tonsil is still a subject of discussion with throat specialists. Some claim there is normally no tonsil to be seen; however, the most usual opinion is that there exists normally a collection of follicles between the pillars of the fauces and protruding slightly above them. The tonsil is an almond-shaped gland larger at one end than the other and somewhat flattened.

The methods usually employed for its ablation are the guillotine, igni puncture, the cold or cautery snare, or the knife. Each of these methods have practical objections to their use. The most important of these objections, and one which applies to all of them, is the fact that the entire gland cannot be taken out. Unless this is done the part remaining will often produce as much trouble as the former condition. The operation proposed obviates this objection entirely. With a well-heated small electrode the pillars are dissected away from the tonsil to one-half its extent. The gland is then, with suitable forceps, drawn well out and entirely dissected out. This portion is then cut off and the surface treated with a strong solution of silver nitrate. In a week or ten days the other portion of the tonsil is removed in the same manner. This operation will give cosmetic as well as practical results unobtainable by any other process yet suggested.

On the Importance of Physical Signs other than Murmur in the Diagnosis of Valvular Disease of the Heart, was the title of a paper contributed by Dr. James B. Herrick, Chicago.

Standard text-books teach that an endocardial murmur is not always an evidence of a valvular lesion, and also that a valvular defect may exist and still no murmur be present. Practically, however, conclusions are usually based upon the presence or absence of murmur. This is wrong, for there may be a valvular disease without a distinct murmur being audible, and therefore other signs than murmur must be used in determining the existence of a valvular lesion. Every valvular lesion must result in hypertrophy and dilatation of the heart behind the valve diseased. An increase in tension of the pulmonary circulation follows any valvular lesion at the mitral orifice, and, later, any aortic disease. This will show in increased force of the pneumonic second sound.

Stenosis of the orifices of the left heart means a smaller amount of blood in the general arterial circulation, therefore, lessened arterial tension.

Failure of the right heart is followed by venous congestion, e. g., venous pulse, hepatic and portal congestion, anasarca, etc.

Hypertrophy may be recognized by the heaving, forcible apex impulse. Epigastric pulsation may call attention to enlarged right heart. The jugular pulse, the hepatic and capillary pulse are all of diagnostic value. The visible pulse of aortic regurgitation is almost pathognomonic.

Palpation is important. Extra cardiac causes for murmur, such as might arise in a heart dislocated by pressure or retraction, can usually be excluded by percussion.

A weak aortic sound may be an indication of obstruction. The reduplicated second sound may point to valvular disease.

A sharply accentuated first sound at the apex is common in mitral stenosis. The peripheral tones in aortic regurgitation are a valuable confirmation.

Cases illustrating the foregoing were referred to.

Error in calling an inorganic murmur organic is readily made unless the secondary sounds are carefully sought for. The intention of the paper was not to undervalue the importance of endocardial murmur, but to insist that it is only by the complexus of symptoms that an accurate diagnosis can be made. Of all the evidences of heart disease, the least valuable is the endocardial murmur.

Dr. Babcock, of Chicago, reported a case illustrating the value of secondary physical signs in the diagnosis of cardiac diseases, and confirmed the remarks of the previous reader.

The Clinical Significance of the Child's Fontanelle.—Dr. J. A. Abt, said that in health the fontanelle does not sink below or rise above its bony frame. It has both respiratory and pulsatory movements. With increased intracranial pressure the normal bruit may quite disappear. An early ossification interferes with brain development and produces a brachycephalic skull. In rachitis the involution of the fontanelle is delayed Marked bulging is caused by the collection of fluid within.

The abnormal retraction of the fontanelle always indicates a condition of inanition. It may be temporary; if chronic it is a serious condition. A deeply sunken fontanelle is always a danger signal in any case. Ossification occurs normally at fifteen to eighteen months. Protuberance and tension indicate meningitis.

Diseases of the Nose and Throat in Children.—Dr. W. F. Barclay, of Pittsburg, dwelt particularly on the possible results of acute and chronic purulent and muco-purulent rhinitis in children. He pointed out the necessity for more attention by the family physician, and demonstrated that almost, if not all, of the pathological conditions in the nose occurring in later life have their origin in childhood.

The paper was an unusually practical and interesting one. Children should be taught to breathe through the nose rather than the mouth. Parents should be taught that surgery can relieve, very easily, those who are unable to breathe through the nose.

Abstracts.

ON CICATRICIAL STRICTURES FOLLOWING INTUBATION.

Galatti (*Jahrb. für Kinderheilk.*, *1896*, *xlii*, *333*) said that it had been his misfortune to observe, during the last three years, in a comparatively small number of intubations (31 cases), two cases of cicatricial stricture of the larynx. This unpleasant complication might probably have been avoided in both cases if it had been possible to follow the advice of Wiederhofer, to substitute tracheotomy after the fourth or fifth intubation. The objection to this course was the great opposition of the parents to substitute a bloody operation for the comparatively simple one of intubation, particularly as the child, while wearing the tube, seemed in good health. In the second case permission to perform tracheotomy was only obtained because alarming symptoms were observed, which frightened the parents into submission. The first case died from the effects of the stricture, as operative procedure was strenuously opposed by the parents. The autopsy in this case disclosed the following: Larynx of normal width, the mucous membrane pale, presenting above the false vocal cords very narrow, slightly cicatricial indentations. One cm. below the true vocal cords, on a level with the cricoid cartilage, the lumen of the larynx was contracted to the size of a barley corn, and the mucous membrane showed well-marked scar tissue. The perichondrium of the cricoid cartilage presented also a cicatrix, and was adherent to that of the mucous membrane directly below the stricture; the lumen of the trachea was dilated and covered with a thick tenacious pus, continuing into the bronchi and completely filling the lumen of the right bronchus.

From this condition it is to be seen that the symptoms of stenosis observed during the last days of life were caused by the decubitus. That the child breathed fairly well for a few days after auto-extubation may be explained on the ground that the ulceration had not yet healed. As cicatrization progressed, the stenotic symptoms became more and more pronounced. Expectoration being hindered by the contraction at the cricoid cartilage, the secretions mostly accumulated in the right bronchus, and caused some peculiar respiratory movements, particularly of the right side.

How do such cicatricial strictures originate ? There is not much literature to be found on the subject. Prof. Wiederhofer reported four cases in 1874. The children were all over three years old. In one case the stricture improved without any treatment, another was treated by gradual dilatation for over a year and recovered; the others were still under observation. Ranke, in the discussion, said that he recollected only one case where a permanent stricture was produced through intubation out of the many hundred of cases intubated in his clinic. In this case the lumen of the larynx was permanently obliterated above the tracheotomy wound. Heubner met with only one case of stricture in 250 intubations. Bokai told the author that in over 800 intubations he only met with two cases of cicatricial stenosis following the operation.

A very interesting case is reported by Baer in his inaugural dissertation, where a girl, eight months old, was intubated by him 33 times in 20 days, and where a tube suitable for a child of 5–7 years was coughed up. The child was tracheotomized. Six days later, removal of the tracheal canula was followed by dyspnea; after an interval of six more days another attempt was made, a previous intubation being unsuccessful. A laryngotomy was therefore done, which disclosed a granulation of the size of a pea; this was removed. At the same time a tongue-shaped fold of the mucous membrane was extirpated from its posterior wall, and was the cause of the failure of intubation. After this, intubation was easily accomplished. From this day on for six months it was impossible to permanently extubate. The tube had to be replaced at intervals of one-half hour to to 6¾ hours; at one time 24 hours passed before it was necessary to reintubate. Commenting on this case, Baer says: "This case can surely not be classed among those where a late tracheotomy is done on account of decubitus. The cicatricial contraction occurred later on; at the time tracheotomy was done there was no cicatricial stenosis present. This case, however, demonstrates how long a tube may be worn without producing decubitus. The cicatricial stricture developed after the laryngotomy, on a site where the tube could not have produced pressure. Contrary to Baer's experience the author's two cases developed a cicatricial stricture after a comparatively short duration of intubation, particularly in the second case. In the first case the tube remained in situ 436 hours, in the second 213 hours, a space of time which, though exceeding the usual duration of intubation, does not reach the maximum time reported by others, where no decubitus resulted. The author thinks he may be allowed to assume, that the cicatricial stricture in both his cases developed as a consequence of pressure ulceration. The literature on the subject, as well as the clinical symptoms of the causes of decubitus are so meagre, that it is impossible to diagnose its presence during life. Even the pathological anatomy presents very few points to elucidate this important question.

We know that ulcerations of the laryngeal and tracheal mucous membranes occur in a number of infectious diseases, for example, in typhoid fever, variola, scarlatina and diphtheria. During the healing of such ulcers strictures are liable to develop. If these ulcers occur in the neighborhood of the cartilaginous portion of the larynx, there follows later a perichondritis, which produces, anatomically, cicatricial contractions of the soft parts, or a callous thickening; symptomatically, pain with the swallowing of solid particles, and disturbance of the respiration. Later, however, a permanent stenosis may follow. If we find such ulcerations in a child which has been intubated or tracheotomized, we naturally are inclined to attribute it to the foreign body. But why should this occur only in exceptional cases? Practically the position of the tube, being held at the level of the cricoid cartilage, favors the occurrence of decubitus in this region, besides rupture of vessels, ecchymoses in the submucous tissue may have some influence in promoting the formation of ulcers. Besides the anatomical peculiarities of the mucous membrane, there may possibly be external causes to favor the occurrence of decubitus in one case more than in another. The stagnation of mucous and its decomposition by bacterial infection may produce chemically an irritation of the tissues of the mucous membrane, and give rise to local disease of the submucous vessels (necrobiosis) from a migration of bacteria into the cellular tissue. The ulcers being once formed, it is easy to see how the presence of a foreign body may cause its extension. If now the tube be removed and the constant pressure taken off the ulcerating surface, the sprouting granulations may, in a relatively short time, produce a cicatrix, and thus a narrowing or even total obstruction of the small lumen in the larynx of the child occur. It is worthy of note, that the greatest number of recoveries with intubation, the duration of intubation was relatively short. The average duration in 17 recoveries was 73⅓ hours. About the same ratio is given by Bókai. Dillon Brown's cases averaged about 123½ hours; Heubner's 100 hours. Mount Bleyer extubated in 79⅓ per cent. of his cases, and Baer in 64.5 per cent., within 120 hours; Ranke, in 72.5 per cent., within 96 hours.

Why is it, that in a certain number of cases, the tube may be removed in a relatively short period, while in others permanent extubation is impossible, and we must continually reintubate, or take refuge in tracheotomy? It is generally conceded, that the diphtheritic process in the larynx is only of short duration in the greater number of cases, and with the amelioration of the local process, the chances of an early extubation increases. If, however, complications arise and are added to the diphtheritic process, as fever, debility and local swellings, it runs a longer course, and naturally will postpone an early extubation. Another important factor is the nervous one, which may produce continued dyspnea after removal of the tube, even when membrane is no longer present. One of the advantages of intubation is that in favorable cases the tube may be coughed up in a few hours, or may be permanently removed without the necessity of a reintubation, while in tracheotomy, the canula must be kept in situ for a much longer period. The following are some of the causes which may necessitate frequent reintubation:

1. Diphtherie à forme prolongée.
2. Recurrent diphtheria.
3. Chorditis inferior.
4. Formation of granuloma.
5. Displacement of the trachea. Changes in the form of the trachea, or larynx, caused by operative interference and the tube.
6. Flaxity of the anterior tracheal wall.
7. Stenosis due to external pressure.
8. Cicatricial stenosis.
9. Primary and secondary diphtheritic paralysis of the larynx.

10. Habit-paresis.
11. Fear of the removal of the tube.
12. Spasm of the glottis.

In many cases, even a laryngoscopic examination cannot determine any anatomical cause for the necessity of continual reintubation, or replacement of the tracheal canula. In such cases we can only attribute the difficulty to some disturbance of the innervation. Motor palsies they cannot very well be, as this would surely be revealed by the laryngoscope. Spasm of the glottis is undoubtedly present in many cases, which may not only be the result of a rhachitis, but due to an hereditary influence from alcoholic parents. Possibly there may be occasionally a cerebral influence which determines disturbances of innervation. The child who has been accustomed for days or weeks to breathe through the tube or canula, is unable to perform the automatic act of breathing at once, on the removal of the auxiliary, by making a voluntary effort to catch its breath; the sudden removal of the tube may also produce a momentary shock and inhibit the respiration; besides this, external causes may be operative, as fear, etc.

Further causes, which may contribute to the difficulty, might be sought for in the muscular system brought into play during respiration. This may be weakened from disease, notably the intercostal muscles and the diaphragm. Paresis of the latter is well known in the course of a diphtheria. A mechanical difficulty may be mentioned which might interfere with the muscles of respiration, namely, great convexity of the diaphragm, due to distension of the abdominal organs (meteorism, etc.). A peculiar symptom is the repeated auto-extubation in some cases. This occurrence is so much more remarkable, as children do not throw out the tube in the greater number of cases, notwithstanding the presence of an obstinate cough. The reason why an auto-extubation is frequently not repeated, is sometimes readily explained, for example, if a tube is coughed up and is followed by a membranous cast, which has forced it out mechanically. Sometimes the child, after relieving itself of the tube, breathes normally and does not need its reintroduction, which may be explained by a loosening of the tube from retrogression of the swelling of the mucous membrane of the larynx.

The numerous auto-extubations in the author's two cases, however, appeared at a time when the diphtheritic process must have ended, and without any assignable cause. It occurred only after a protracted period of intubation, and one is tempted to look upon this symptom, at this time, as suspicious, as a signal, so to speak, to look out for further complications.

As regards the therapeusis of a cicatricial stricture following intubation, prophylaxis would be the first consideration in endeavoring to avoid the decubitus, which in one sense is the primary cause of the stricture. Some authors commend the performance of tracheotomy on the fourth or fifth day of intubation, if the tube cannot be permanently removed at that time, so as to shorten the duration of intubation. Others think the performance of tracheotomy only justified when there seems no hope that the tube can at any time be permanently removed, leaving entirely out of consideration the length of the intubation period. It would in most cases by a very difficult question to decide, when tracheotomy is indicated, according to the latter rule, particularly as it is usually impossible to diagnose the presence of a decubitus. In the author's cases, there were no symptoms of a commencing decubitus, unless the frequent auto-extubation be considered as such. Both opinions above mentioned demand some consideration; the first lays most stress on prophylaxis, while the other may save some children from a bloody operation. Each physician will naturally be guided by his individual opinion and experience founded on previous cases. If the physician decides to do a secondary tracheotomy, it would be well to satisfy himself of the permeability of the larynx, which is most easily done by an attempt at intubation. The proceeding of Bokai seems very rational, who makes a daily intubation of short duration, after a secondary tracheotomy, to prevent the formation of a cicatricical stricture. Should it be impossible to intubate even with a small tube, an examination with the laryngoscope would be proper, followed by probing of the larynx. We must always bear in mind that frequently even this will not be possible, for on contact with the probe, the glottis reflex will close it. Should this happen, we may introduce the probe through the tracheal wound. It may be that the probe can in this way pass the stricture, or both devices may fail. In the latter case, there is probably a total occlusion of the larynx.

When the presence of a stricture is proven there are two ways to deal with it. Either gradual dilitation or laryngotomy. If a complete occlusion is diagnosed, surgical measures must be instituted for the excision of the cicatrix. As this may, however, produce more cicatricial tissue, it will be necessary to follow it by further intubation, or the introduction of some solid body, to prevent contraction of the wound.

TREATMENT OF THE MILK INFECTIONS.

McKee (*Phila. Polyclinic, 1896, v, 371*) says that in cases which are presumably due to milk infection, it is obviously necessary that milk should be withdrawn from the diet. This is an absolute rule, and admits of no deviation. In some cases it need be discontinued but twenty-four or forty-eight hours; in the most severe and in long-continued cases, it will be necessary to exclude it for a longer time. In the interim raw beef-juice may be given in dram portions every two or three hours. For twenty-four hours this alone will serve, but where milk is abolished for longer periods, we can supplement the juice with egg albumen, the beaten white of egg, or albumen water.

Thirst is usually excessive in all cases, and cool drinks, whilst relieving this symptom, will also aid in reducing temperature. A large quantity of boiled water may be placed in the ice-chest in the morning, and will serve for the day's use. We may give this water rather frequently, and in small amounts. Barley water, treated and administered in the same way, is very acceptable to small children, and possesses the added advantages of slight food and medicinal value. In all cases, whether severe or otherwise, whether extremely acute or long-continued, the bowels must be emptied of the poisonous, offending material. The early dose of castor oil will frequently avert further trouble, but in the majority of fairly mild cases calomel in broken doses will stand us in better stead. This is especially true in cases where vomiting is marked. Then calomel, by its action upon certain secretions, exerts an antiseptic influence. After the intestinal tract has been thus cleansed of the offending material, the intestinal antiseptics, combined with bismuth, usually yield us good results.

Salol	1 grain.
Bismuth subnitrate	8 grains.

Take one powder every three hours.

Or:

Salol	1 to 2 grains.
Bismuth subgallate	5 to 8 grains.

Take as above.

In extremely acute cases (cholera infantum) we can scarcely wait for these measures to act. Enteroclysis with lavage then yields us our best results. The armamentarium for carrying out this procedure need be a very simple one. A glass funnel, a piece of rubber tubing two feet long, a pair of soft rubber catheters (one for the stomach and one for the bowel) furnish us a full equipment. With reference to the fluid used we believe that the amount is of more importance than the quality. In cases seen early and with high temperature, ice-water acts most beautifully.

One must not try to pass the rectal tube more than three or four inches, else it will turn upon itself. Jacobi lays stress upon this fact, and it has been our experience.

In cases which are in a state of collapse when seen, the use of a hot solution would seem more rational than that of a cold solution. We use the hot normal saline solution.

Such irrigations may be repeated at intervals of from one to four hours, according to indications. Combined with irrigation, the intestinal antiseptics will again stand us in good stead.

In subacute cases (entero-colitis), seen possibly after ten days or two weeks of illness, and when the poor little sufferer is worn to skin and bone, we are apparently between the horns of a dilemma. It is dangerous to check the bowels in such cases, for it has been well shown by Ashby and others that the strain of elimination may come upon the kidneys and that fatal nephritis may result. At any rate we are shutting up poisons in the economy, from which dangerous ptomains may emanate. On the other hand, the child is becoming exhausted, and we fear to resort to the use of a laxative or purgative preparation. Here again enteroclysis solves the riddle, for not only is the poison diminished in this way, but the use of warm irrigation is in itself stimulating. Alcohol is especially useful where the common complication of catarrhal pneumonia is present. Digitalis is also important in the latter instance.

TEETH AND SUPERSTITIONS.

The parish monthly nurse of Churcham, Gloucestershire, used invariably, after public baptism, to wash out the mouth of the infant with some of the remaining sanctified water as a safeguard against toothache.

In Ayrshire, the root of the yellow iris, chopped up and chewed, is believed to be a panacea; whilst some recommend the carrying of a double hazel nut about the person.

In many districts, on the first symptoms of a child cutting its teeth, a "teething bannock," or cake, was made, consisting of oatmeal, butter and cream, sometimes with the addition of a ring. This was baked in the presence of a few neighbors, and without a word being spoken by the cook. When prepared, it was given to the child to play with 'till broken, after which a small piece was put into the child's mouth, and each one present carried away a small portion. It was supposed to ease the troubles of teething.

In county Wicklow it was customary to point three smoothing irons, each three times, at the painful spot, in the name of the Trinity, when, sure enough, the pain would vanish.

Aubrey says, "The Irish do use a wolf's fang tooth, set in silver, which they hold to be better than coral for assisting teething; while in Germany silver bells are used." From Pitsligo we have the following:

> "If ye cut yir first teeth abeen
> Ye winna dance i' yir marriage sheen."

From Germany we have the following:

When children shaled their teeth, the women used to wrap salt about them and cast them into a good fire. Cramer saith that in parts of Germany some women will bid their children to take the tooth which is fallen or taken out, and go into a dark corner of the house, and cast the same into it saying: "Mouse, here I give thee a tooth of bone, but give thou me an iron one." Another custom was, as soon as a child's first tooth was seen, to box his ear, and the remainder were supposed to be more easily cut. The same was supposed to happen if a child were given an egg the first time it came into the house; though some said it made them more talkative. Children were warned not to lick the sockets of their first teeth, as the new one would grow twisted.

In Denmark, the elder tree was said to be good against toothache or fever. In order that a child's second teeth might come straight, it was customary in Roumania to bury the first teeth, as they fell out, at the foot of a straight oak tree. As a cure for toothache, in Roumania, the patient was made to sit beside an ant hill, masticate a piece of black bread, and spit it out over the ant hill. As the ants ate the bread the pain would cease.

Puritan New England was not exempt from superstitions. The first tooth cast by a child should be swallowed by the mother, to ensure a new growth of teeth.

Nurses recommended children to hunt for and carry double hazel nuts as preventatives. There is one story of a nurse who remonstrated strongly against throwing away the cast teeth of the children, as, if found and gnawed by an animal, the new teeth would be like those of the aminal. This she illustrated by the case of old Master Simmons, who had a large pig's tooth in his upper jaw, because his mother threw one of his into the hog trough by accident.

A necklace made of beads turned from the root of the peony was worn by children to aid dentition and prevent convulsions.

Amongst the Malagasy it was customary, when a child lost one of its first teeth from the lower jaw, to throw it over the house; if from the upper, to bury it under the foundations; the belief being that a new tooth would grow in the socket if this was done. This at one time was also customary in England.—James C. Douglas, *J. Brit. Dental As.*, *1896*, *xvii*, *422*.

EDEMATOUS LARYNGITIS IN CHILDREN.

Louis Bar (*Allgem. Wien. Medicinalztg*, *1896*, *xli.*, *359*) says that acute edematous laryngitis is not even mentioned in most works on diseases of children, and a few lines only are devoted to this disease in some special works on laryngology. Prior to the year 1893, very little importance was ascribed to acute edema of the larynx, when Touchard's thesis, entitled "Laryngite aigue de l'enfance simulant le croup," appeared, which paper leaves only to be regretted that no laryngoscopic examinations were made. From the description given by the author, it seems probable that the cases he observed were cases of laryngitis edematosa inflammatoria, wherever the seat of the edema may have been. We personally have observed two cases, both of which were examined by the laryngoscope, and we are therefore assured of the existence of this disease. A third case, running a somewhat different course, will be used as an illustration of the following studies.

Symptomatology and Description.—Frequently we meet in practice cases which present all the functional symptoms of croup, but recover so rapidly that it is impossible to maintain positively that they were cases of diphtheria. A laryngoscopic examination in these cases would enable us to demonstrate the edema.

He reports the following cases: 1. A child, five years of age, presented alarming symptoms of dyspnea. She had complained of pain in the throat for three or four days, had difficulty in swallowing, and swelling of the tonsils, and intermitting hoarseness. The dyspnea had been increasing steadily, and was accompanied by laryngotracheal whistling and hissing. The face was pale and cyanotic and the pulse was rapid, small and thready. There was no history of nose bleed, no expectoration of pseudo-membranes, and no infiltration of the submaxillary glands. A laryngoscopic examination showed the mucous membrane to be slightly swollen, of uniform redness, without any pseudo-membranous deposit. The swelling of the interior of the larynx nearly closed its lumen, and during inspiration the slightly reddened inner borders of the vocal cords could be seen. Under a moist compress to the neck, a mustard foot-bath and aconite and belladonna internally, the child made a perfect recovery in three days.

2. A small child, 3½ years of age, was brought to the author for examination, as the mother feared it might be suffering from croup. The voice was hoarse, only occasionally clear, the respiration somewhat impeded, and a slight cough was present. The mucous membrane of the larynx was much swollen, but allowed the slightly reddened vocal cords to be seen. Ipecac was given in emetic doses; a warm, moist compress was applied to the neck every two hours, and a mustard footbath was given. The child recovered in four days. In both of the foregoing cases a laryngoscopic examination revealed an edema of the glottis, which explained the dyspnea, the changeable voice and the rough cough. There certainly was no pseudo-membrane present. He reports a third case

which is very interesting. 3. A young girl, 11 years old, had malaria and whooping cough, which had been contracted two years ago but had left her in a condition of weakness manifesting itself in a gradual loss of weight. In 1895 she had two attacks of laryngismus stridulus. In 1896 the emaciation became more marked, and dyspnea made its appearance. Finally a cough, without expectoration, profuse sweating and suffocative attacks appeared. Fever, and later pain in the thyroid and cricoid region was complained of, and the aphonia became complete. The laryngoscope revealed edematous swelling and reddening of the ary-epiglottic region, a continuance of the edema to the false vocal cords, and also to the opposite side. The vocal cords, themselves barely visible between the swollen masses, were normal. An insufflation of tannin was made into the larynx, and a moist pack applied to the throat every two hours. Ice, milk, and cinchona were also given. For two days the improvement was marked, and continued to the 10th of March. The voice had again become clear and the respiration easy, but on the evening of March 13th the temperature rose to 39 deg. C., the cough became more frequent, and breathing much obstructed. On March 18th the patient died of asphyxia.

Autopsy.—The glottis was injected and slightly swollen, and there was no trace of pseudo-membrane. The false vocal cords were more voluminous than normal, wrinkled and doughy. Below the left vocal cord there was a fistula leading to a space behind the necrotic surface of the cricoid cartilage. No ulceration was present in this infiltrated pocket, but there was some pus. Below the true vocal cords the edema was more marked, partly due to the extension of the pus pocket. Microscopic examination revealed micro and streptococci and Koch's bacilli in large numbers. Hence it was a case of pseudo-edema of the larynx of tubercular origin. The dyspnea in edema of the glottis in children is usually severe and rapidly fatal, and in a few cases only is it gradual and slow. The form of dyspnea is *inspiratory*, due to the site of the edema in the ary-epiglottic folds and in the epiglottis itself. Very infrequently this edema of the glottis obstructs both phases of respiration. The voice is variable, rough or normal, whispering or high pitched, according to the greater or less involvement of the vocal cords. By a digital examination we are often enabled to feel the thickened epiglottis and ary-epiglottic folds, but it is a dangerous procedure, and the diagnosis ought to be made with the laryngoscope.

Treatment.—The edema caused by catching cold, as well as that produced by the extension of an inflammation, should be treated antiphlogistically. The moist compress to the throat, swallowing ice pellets, spraying a solution of tannic acid into the larynx, and hot mustard foot baths, or occasionally an emetic, give the best and most rapid results. Application of cold is of the greatest benefit in the beginning of the disease, later on hot vapors and hot compresses are indicated. To allay nervousness and fear, ether, bromide of soda or chloral may be given. The spraying of the throat with a solution of tannic acid, 8 grammes to 500 of water will give good results. A solution of alum is not to be recommended. In the serous forms the insufflations are of great utility; in the inflammatory, pilocarpine injections seem more appropriate. Scarification, recommended by Gordon Buck of New York, has never been of use in the author's cases. More successful has been tracheotomy, which is sometimes indicated. It should be performed whenever symptoms of a progressive dyspnea are present.

A CASE OF POISONING WITH BROMOFORM.

VAN BOEMMEL (*Deutsche Med. Wochenschr, 1896, xxii, 46*). A child, ten years of age, suffering from whooping cough, was given 3–4 drops of bromoform twice daily. The result was exceedingly good, and the child recovered rapidly. About five months later the child swallowed about one-half of the remaining medicine. In fifteen minutes the child was seen by the writer. Face was slightly cyanotic, pupils greatly contracted, paralysis of heart and lungs threatening. Artificial respiration was at once instituted, with hot baths and cold applications to the head. Reaction was very slight, only the pupils would occasionally expand and contract again, under the applied stimulation. After two hours of continued work, ether injections were given subcutaneously with only little effect; trismus and severe convulsions of the extremities now made their appearance. After repeated ether injections, respiration was reduced from 42 and 47 to 27, and the pulse rose from 32 and

45 to 52 in the minute. This, after four hours of continual effort at resuscitation. Gradually the cyanosis of the lips disappeared, breathing became quieter and the child began to rally. Next day patient was perfectly well. Author thinks that patient must have swallowed 50-60 drops of bromoform; tongue was colored brown by it and the breath exhaled its odor.

Short Notes on Practice.—Von Licherer (*Der Kinderarzt, 1896, viii, 15*), in the treatment of blenorrhea neonatorum, prefers a solution of oxycyanide of mercury (1:500) to sublimate and nitrate of silver. Having equal bactericidal qualities and antiseptic powers, it has the advantage over corrosive sublimate of not coagulating albumen to such an extent, and being much less irritating. Evert the eyelid and thoroughly wash out the conjunctival sac at least once daily. At home, continued ice applications are to be made. Where the cornea is not yet affected, the results are always satisfactory.

Massini, in the treatment of pneumonia in children, gives as many decigrams of digitalis as the child is old in years. According to the *Zeitschr. f. Krankenpfl.* powdered mustard is an excellent and mighty deodorizer. Particularly is it valuable in freeing the hands from clinging odors. It should be used wherever a rapid and thorough disinfection of the hands is required.

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PEDIATRICS

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Original Articles.

ICHTHYOSIS IN CHILDREN.

A New Treatment by Thyroid Gland and Pilocarpine Nitrate.

By David Walsh, M.D., Edin.,
London.
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THE curious condition of skin known as ichthyosis is of importance to those who have to do with the ailments of children. In ichthyosis proper we find dryness of the skin, which, in parts, especially on the trunk, elbows and knees, is rough, scaly, warty and thickened, of a greenish color, and has an undue tendency to become dirty. The milder and more common form of the malady known as xeroderma, shows a skin dry, slightly rough and scaly, and characterized by absence or marked diminution of sweat. In both forms the patient is sensitive to cold and is liable to eczema with formation of deep, painful rhagades or "chaps." As every one knows, the affection is nearly always congenital, although in most cases it is not observed until some time after birth. Indeed, in those rare instances where it is said to have come on in later life we may suspect that a mild ichthyotic state has probably escaped previous notice.

The etiology of this peculiar deformity is obscure. It is usually stated by authorities upon the subject to be hereditary, but that view is disputed by Unna* and is certainly not borne out by the four cases reported in this article. Both sexes are equally prone to attack. Pathologically there is an obvious error of cornification of the epidermic cells, or parakeratosis.

The chief points noted in microscopic sections are proliferation of the cells of all layers of the epidermis, elongated papillæ, and in the severer forms chronic changes in the deeper skin, with more or less atrophy of glands and lessening of the fat of the corium. However, little is known as to the ultimate cause of this extensive disturbance of the cutaneous envelope. Leloir† thinks it is usually a tropho-neurosis. Unna‡ inclines to the opinion that true ichthyosis may be an infectious hyperkeratosis. The writer has imagined that in some instances this interesting error of development may be a reversion to the reptilian or some other ancestral type of skin.

Nor has the treatment of this disease hitherto rested on anything like a satisfactory basis. Certain facts about it are known as the result of clinical experience, but therapeutics cannot be said to have yet emerged from the empirical stage. One general observation is that the skin is less dry and rough in summer than in winter. Acting on this hint dermatologists have attempted to rouse into activity the skin and its glands. Accordingly we find that warm alkaline baths, turkish baths, and frictions insisted upon in all the text books as the best means of alleviating the discomfort of the patient. To this is added inunction, usually with simple unguents whereby the skin may be supplied, as it were, with that artificial sebum or "oil," which its own glands have failed to supply. Lastly, other physicians have used tar and other antiseptic applications. Until lately these simple remedies completed the special list at the command of the physician. Within the last few years, however, a powerful additional weapon has been placed in his hands in the shape of thyroid gland. Ever since the clinical acumen of Dr. Byrom Bramwell showed the profound influence exerted by that drug upon the nutrition of the skin, it has been used by dermatologists in every conceivable condition of that organ. Needless to say, in a great many instances it has proved worthless. Still, there are a few diseases, such as lupus vulgaris and ichthyosis, in which the gland appears to exercise a distinctly good effect. In the latter mentioned condition it has occurred to the writer that the action of the gland upon the skin might, as it were, be emphasized by the addition of a powerful skin stimulant, such as jaborandi, or preferably its alkaloid, pilocarpine. Accordingly Messrs. Burroughs and Wellcome made for him tabloids containing five grains of the dried gland with 1-10 of a grain of pilocarpine nitrate. Experimental evidence indicates the use of the latter drug in ichthyosis, where the hindered activity of the sebiparous glands is a prominent feature. Thus it has been shown to have a peripheral action, for Fuchsinger (confirmed by Nawrocki) "found that section of the nerves of the cat's leg did not prevent the paws from sweating when jaborandi was exhibited." (Pfluger's Archiv, xv., 482.)

The combined drugs were administered in the four following congenital cases of simple but well marked cases of ichthyosis under the care of the writer. In no instance was a hereditary history obtainable.

1. Herbert H., *aet.* 4, came to the Western Skin Hospital, April 23, 1896, complaining of rough skin. Seven other children, one similarly affected. No hereditary history. The knees, elbows and loins were covered with greenish, warty epithelial thickening; to a less extent the abdomen; rest of body surface rough, dry and harsh; hands eczematous. To take thyroid gland, 5 grains daily. *May 1*, add tincture jaborandi, ♏ 10 thrice daily. *June 5*, Creolin baths ordered (first external treatment, patient had already considerably improved). *July 2*, he has pains in head, etc. To stop tabloids and rub in simple ointment. *Aug. 13*, tabloid thyroid gland, 5 grains with pilocarpine nitrate $\frac{1}{10}$ grain daily; continued to present date, when condition is thus reported: ichthyotic condition disappeared for some time; some xerodermatous roughness remained about legs, arms and face.

2. Margaret H., *aet.* 8 (sister of foregoing), was admitted *April 23, 1896*. History of rough skin since vaccination. Much the same physical condition as brother. Thyroid gland, 5 grains daily. *May 7*, tincture of jaborandi, ♏ 10, added thrice daily. *May 21*, two tabloids daily. *July 16*, "out of sorts," headache, etc., tabloids discontinued for a week. To take creolin baths. Very considerable improvement of skin since admission. *August 13*, compound tabloid (thyroid and pilocarpine) one daily, continued to date, without inconvenience. This patient began to improve within a few days of commencing the gland. In marked contrast to her brother, who took almost as many weeks to show an equal amount of improvement. Latterly, however, his progress was rapid.

3. Louisa M., *aet.* 5 years, was seen April 16, 1896. Five

other children, none of whom have rough skin. Mother suffered at one time from "bad hands." No hereditary history. Skin has been rough since birth. The lower trunk, elbows, and knees are rough, discolored and shagreen-like; rest of body surface dry, rough and harsh. Tabloid thyroid, 5 grains daily; to rub body with unguent boracis. In a month the skin showed considerable improvement. *April 30*, ♏ 5 of tincture of jaborandi added to the thyroid. *May 28*, jaborandi increased to ♏ 10. *July 19*, tabloid thyroid with pilocarpine, one daily, continued up to time of writing. After three months' treatment the mother of the child volunteered the statement that the child had never been so well since she could remember. At that date the face, legs and arms were still somewhat rough, but the rest of the body surface was soft and normal.

4. Annie S., *aet.* 11, was seen Dec. 1, 1895. She was suffering from rough skin. She had been ten months under treatment and had improved, but latterly had left off and got worse again. She had been taking one tabloid, sometimes two, of thyroid gland for months previously to coming under observation. The back was harsh, rough and scaly; face rough; palms of hands dry, shiny and natural fissures emphasized (the characteristic ichthyotic palm). *Jan. 6*, skin softer. *Feb. 10*, two tabloids given. *Feb. 24*, tabloid reduced to one (headaches, etc.). *May 30*, three tabloids given with ♏ 10 of tincture jaborandi thrice daily. *June 13*, cheeks and hands feel soft and normal. *Aug. 17*, she has been at seaside, the cheeks are a little rough; one tabloid of thyroid with pilocarpine is given daily.

On *July 1*, 1896, this patient was shown along with the others at the Dermatological Society of Great Britain and Ireland. It was then reported: "Patient appears quite well except that the palms are shiny, although sweating freely, and the face has a tendency to get dirty."

Two of these cases had been under previous treatment, and both had been shown at the Dermatological Society. One treated with ordinary methods for seven months had not benefited materially. The second had been given thyroid gland and had improved considerable, but had relapsed. The latter patient showed much greater improvement under increased doses of the gland and still more so when combined with jaborandi. After a few months' treatment, indeed, she herself advanced the statement that she had never been so well in her life before. The only signs of the ichthyotic condition remaining in her are the tendency of the face to get dirty and the shiny surface of the palms. This improvement has been maintained now for four or five months and has never been attained by any other plan of treatment. The point now to solve is whether thyroid gland, alone or in combination, will be able to effect the permanent cure of ichthyosis.

From the history of the cases given we may conclude that thyroid gland, on the whole, is well borne by children. In case No. 1, a boy of 4, the drug was stopped once, and that only after two months continuous administration. Case 4, a girl of eleven took fifteen grains daily for weeks without discomfort, although symptoms had before that been caused by ten grains.

In two cases (1 and 2) some improvement took place without local applications. However, the writer is inclined to regard the thyroid gland and pilocarpine as valuable aids to the treatment of ichthyosis rather than in the light of specific cures. A parallel instance may perhaps be found in the service rendered by tuberculin as an auxiliary therapeutic agent in dealing with lupus vulgaris. Probably the best means at our command in attacking the ichthyotic condition would be the use of hot tar or other baths, with simple inunctions and the internal administration of thyroid gland and pilocarpine.

The writer's main conclusions are :

1. That ichthyosis may be controlled, if not actually cured, by thyroid gland and jaborandi (or its active principle, pilocarpine).

2. That external routine treatment by means of baths and inunctions is a necessary adjunct.

3. That thyroid gland is well borne by children.

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* Histopathology—Unna. English Translation, p. 323.

† XXth Century Practice of Medicine, Vol. v., p. 847.

‡ Histopathology—Unna. English Translation, p. 324.

PRACTICAL WORK IN PSYCHOLOGY.

By Lightner Witmer, Ph.D.,

University of Pennsylvania.

THE practical side of psychology deserves serious attention from professional psychologists. The practice of psychology may become as well defined a pursuit of a trained professional class as is the practice of medicine. The regular practitioners of psychology are the teachers. Unfortunately too many teachers turn to nostrums and traditional remedies, and have as yet too little appreciation of the value of training and of persistent study of the cases they are subjecting to treatment in the school-room. Unfortunately, also, specialists in pedagogy, notably the Herbatians, are too often enthusiasts advocating some particular course of treatment as a universal panacea. It is not surprising that the patient is often forgotten in the zealous devotion of the teacher to an ideal of education or to some specific method of instruction.

Irregular practitioners of psychology are also met with in the Christian Scientists and the advocates of Mind Cures in the many forms under which these are presented to the public. These advocates of mental treatment are not hopelessly in the wrong. In fact, they are often using methods that are employed by the physician, by the teacher and by every one who exerts an influence for good or evil upon his associates or upon the developing child. These irregular practitioners should be assailed, not for their method, but for their ignorance. They may do some good by methods already known to physicians and practised by them. The results that may be obtained in modifying mental and physical condition by appealing directly to the mind, ought to be studied without prejudice and preconception. These irregular practitioners ought to be met, not by attacking the effectiveness of mental treatment *in toto*, but by prosecution for practising medicine without a license, whenever their ignorant pretensions to cures of profound physical ailments lead to the infliction of irreparable injury upon their patients.

A practical psychology, undisturbed either by the splendid promises of pedagogical ideals or by the persistence of traditional or of "faddist" methods, should direct its inquiry to the determination of what the child was like when treatment began, what it is like when the treatment is completed, and what were the means employed. Credit for improved condition should be given to the course of treatment followed irrespective of the relation of such treatment to "systems" of pedagogy.

What assistance can a practical psychology offer in the study of the results of mental training?

First.—*The examination of the physical and mental condition of school children.* The normal, or supposedly normal child, should be studied in the years of school life by properly adapted physical measurements and mental tests, conducted so as to ascertain what the average child is and to show the advances made by him, from year to year, with increase in age and with the progress of school training. Such studies are already recognized as an important field of investigation in psychology, and are a part of every well directed department of child psychology. It is to be hoped that some day a careful examination of the mental and physical condition of every child will be an accepted feature of school work.

Second.—*The study of defective children.* These children are better subjects of investigation than normal children. As their mental and physical condition in many respects departs noticeably from the normal, it is generally apparent even to the casual observer and is susceptible of ready description and exact definition. The methods of instruction are simple and the difference in condition at the beginning and end of treatment is more marked than in normal children, so that the relation of result to method is more easily determined. I have found it of great service in my work in child psychology to visit, with my students, special institutions, such as the Pennsylvania Institution for the Feeble Minded, the Pennsylvania Institution for the Instruction of the Blind, the Pennsylvania Institution for the Deaf, and the House of Refuge. So far as possible the mental and physical condition of the children in these institutions is studied with particular reference to their special defects and general deficiencies, so as to make clear the psychological and pedagogical problems involved in their education.

Third.—*A psychological museum.* In connection with the department of psychology at the University of Pennsylvania, a collection is being formed of specimens of work done by defective children and of the instruments and apparatus used in teaching them, together with records of the results of special investigation upon such children and upon normal children, exhibited in the form of tables and curves. This collection is the nucleus of a psychological museum, whose object will be to furnish material for examination by students of psychology and pedagogy as part of their regular work.

FOURTH.—*An experimental training school.* A very important adjunct to the department of Child Psychology would be a training school for classes of children who are below the average in possessing minor physical, mental or moral deficiencies, but who do not require, or whose parents would not submit to treatment in special institutions—children, for example, who have difficulty in hearing, in seeing, or in speech, who are backward in their studies, or who show defective powers of memory or attention, or disciplinary cases that require individual care to prevent mere nervousness or restlessness or an excess of primitive instincts from developing into moral obliquity. A conservative estimate places one per cent. of the school population within these designated classes, although as high an estimate as five per cent. has been given. The removal of these children from the ordinary schools would benefit them and their parents, would result in the improvement of the work of better endowed pupils, and be a great relief to teachers, whose energy is overtaxed in their treatment to the neglect of those children to whom society owes the best pedagogical training it can give. In addition to these classes there are many children who ought to have their school training supplemented by some individual treatment adapted to their specific needs. They may be constitutionally bad spellers, or backward pupils in one branch, though precocious in others, or children so self conscious or shy that their growth in mental capacity is seriously interfered with. Some attention given to such cases by pedagogical experts might cause many a difficulty to be overcome, and enable the child to take his place among his fellows instead of dropping out in the race. It would be the object of this school to make a careful study of each case, and upon the basis of a thorough examination to propose the treatment that each individual seems to require. A corps of capable and well-trained teachers, receiving on the average a much better compensation than their professional brethren, is required for its successful operation.

The careful study and treatment of these cases may be expected to increase our knowledge of the human mind, to test the value of pedagogical methods, and to benefit a numerous class of children and parents.

A school, such as I have here under consideration, will be the outcome of slow development. To a great extent it will be compelled to train its own teachers. Its beginnings, therefore, must be small; a building or even a school-room is not indispensable; in fact, many cases require home treatment. A number of special teachers with proper training and sufficient experience, working independently, but yet with the confidence and under the direction of specialists in nervous diseases or diseases of children, and with the co-operation of the department of psychology, will advance this line of work far beyond its experimental stages.

Miss Mary E. Marvin, whose statement of the methods used in developing the intellect of a feeble-minded child follows upon this sketch of the organization of practical work in psychology, is a teacher whose training and experience fit her for the satisfactory pedagogical treatment of cases of feeble-mindedness, or of minor intellectual deficiencies. She received a normal school training for the profession of teaching, and followed this with a training in methods of teaching oral speech to the deaf, acting for a time as the principal of a city school for the deaf. She has made a careful study of cases of feeble-mindedness, and backwardness in mental development, and has the enthusiasm and interest in her work that is needed to insure success. She has a few cases under her care already, and expects in the near future to rent a house where she can properly care for a few children needing the special training that she is able to give. Although her methods are her own, and in the treatment of each case she works under the direction of the specialist who has confided the case to her care—a relation that should always subsist between the special teacher and the medical specialist, if these difficult cases are to make the most satisfactory progress—she is yet in such co-operative association with the department of psychology at the University of Pennsylvania that her work will constitute the beginning of the experimental training school above outlined.

Methods Used in Developing the Intellect of a Feeble-Minded Child.—P. was born in a western city August 17,

1885. His parents are of Jewish descent and well educated, his father being one of the most prominent lawyers in the town. P. is said by the family physician to have been born normal, his mental defects being the result of severe convulsions while teething. Such special training as he had received previous to 1892 had proved unsuccessful. In September of that year I began my work with him. I found him a perfectly formed child—graceful, lovable and beautiful in appearance. The only words he had ever spoken were papa and mamma, and these in a very inarticulate way and without any idea of their meaning or proper application. Liquids or foods that could be swallowed without mastication had alone been given him on account of his seeming inability to chew. His sense of smell was most highly developed; by this sense he chose his food and recognized his friends. If by chance his hand came in contact with any object, it was hurriedly withdrawn and carried to his nostrils. Out of his own home he was uncontrollable, like one insane, upsetting whatever came within his reach. His first instinct when given anything was to destroy it; this he succeeded in doing if the strength of his fingers was sufficient, though he never employed other means of destruction as is common to defective children. Seldom could there be found any amusement great enough to retain his attention for even a second.

Holding his head between my hands in trying to fix his attention on my face, proved at first futile, as he would roll his eyes from side to side. However, I was finally successful. The only two things he seemed to care for were stringing buttons and playing with balls. If let alone he would sit on the floor by the hour thus amusing himself, but if his name were called, or he received the impression that he was wanted, he would spring to his feet and run anywhere and everywhere. He was remarkably adept in balancing things upon his head or hand. I have seen him take a tumbler of water, and placing it on the palm of his outstretched hand, drink the water without spilling a drop or touching the tumbler with the other hand. This was his most important, in fact, almost his only manifestation of motor ability. The performance of the balancing trick threw him into an almost maniacal frenzy, from which he emerged nervous, unstrung and mentally debilitated. Music alone, among sensory stimuli, appealed to him. He could hum most of the tunes he had ever heard.

The physician who had been attending him just previous to my being called in, advised training for the sake of the discipling he felt was necessary, but with no idea of improving the child's mental condition. The physician who examined him at my request gave me no encouragement, as he felt the home influence would be a detriment to any great improvement.

During the four years he was under my instruction, I was with him only three hours a day for five days of the week. My first task was to gain the child's affection, if he had any, and so I made his pleasures my pleasures. Sitting on the floor with him I would string buttons, roll balls, or sing. When he finally decided to accept with good grace the idea of sharing his pleasures with others, we began selecting buttons of a kind, thus taking the first step in the training of his powers of discrimination. After winning his affection I realized that but little would be accomplished unless he were taught to sit quietly and to look me in the eye when I was talking to him. After his attention could be fixed by the simple and direct method of holding his head, I had him sit in front of me when I would take both his hands in mine and fix my gaze on him until he was induced to look into my eyes. After a comparatively short time he realized that if he took the position I desired, his hands would be released; of his own accord then he would place his chair in front of me, seat himself, and putting his hands in mine, gaze up into my eyes. As his mind developed and he became quieter, this was his favorite attitude while being taught speech or music.

Speech was taught through music. Seated in my lap and holding his head between my hands, I would first sing a verse of a song, the tune of which he knew, then beginning again would sing one line over and over until, instead of humming the tune, he would try to imitate the motions of my mouth and the sounds. In a few months he had learned the words of "Yankee Doodle," and could sing them very distinctly.

During the first few months I allowed him to work only five minutes at a time, gradually lengthening the time until the fourth year, when he would work half an hour without showing signs of fatigue.

The development of the sense of touch was begun in our play with the balls. He learned to discriminate between the hard ball and the soft, the wooden and the rubber, and by closing his eyes would tell the large and the small. As the sense of taste was developed, the inclination to smell his food grew less and by the second year had disappeared. By the fourth month of training he was not only allowed to have his meals with his parents, but was able to feed himself.

On the eighth of January he rather suddenly grasped the idea of applying proper names to persons. This awakening seemed like sunshine bursting through a storm-cloud. Although I had labored with him for many weeks to make him understand whom he should call mamma and papa, up to this day his comprehension had been very imperfect. This morning there was, what seemed to be, a sudden awakening.

At the close of the term, June 30, 1893, he had a vocabulary of over fifty words; could ask for everything he wanted in the way a baby first talks; recognized friends at some distance; had learned to ride a velocipede, and could spell one word, "boy." One very marked instance of the growth of the power of observation was the delight he experienced in driving, which heretofore had been objectionable to him. Force had been necessary to get him into the carriage and force now was needed to get him out. Instead of falling asleep he gradually began noticing objects along the way and calling his father's attention to them. After a vacation of a month, during July, we began work again, and, much to my surprise, I found he had made considerable gains during this period of rest. Among our playthings was a slate with sliding letters. He was very fond of making the letters whirl around the groove in which they rested. After allowing him this pleasure for a few days, I taught him to push them out of one groove into another, and to place one of a kind in a groove, naming the letter when he found it. The first letter he learned was "o," which was chosen on account of its resemblance to a ring. This we called "a bad boy," who had to be punished by being placed in the center groove. When he was able to select all the "bad boys" I taught him the name of the letter. Then followed "b," then "y," and by October 31st he was able to place them as to form the word "boy." He then took a dissected alphabet, and, selecting the three letters, spelled the word "boy" with them. After this he would recognize at a glance these letters and this word wherever he found them. During the winter the words "baby" and "bed" were mastered in the same way.

In the first two months of the second term the improvement was very marked. He surprised his father, when called to come to dinner, by answering "I can't now." He was busy putting away his blocks at the time. When reproved for some misdemeanor, he would say, "I won't do it again." It was at this time he discovered that when the bells rang at twelve o'clock, he was taken home, so at the first peal of the bells he would start for the door, saying: "It is time to go home." A few months later on being asked what he wanted to go home for, he replied, after a silence of a few seconds, "I want my dinner." With the development of the mind came physical weakness, and for a few weeks in mid-winter I feared the results. By perseverance he was taught to chew and thus compelled to take more nutritious food; the crisis was passed and from that time on he has been an exceptionally healthy child. By this time such questions as what was his name, how old, where he lived, names of the different members of his family, etc., he answered very readily. Two other accomplishments acquired during this term, were counting to one hundred and building houses with the blocks. On the closing day, June 29, 1894, he sang "Way down upon the Swanee River" with piano accompaniment.

The work of the third term was but a continuation of that previously done, with the introduction of written characters. As soon as I was convinced that the child understood the meaning or right use of a word, it was printed on one set of cards and written on another. As he had been taught to do with the dissected alphabet, he selected, from his total collection of words, those that were alike, arranging them in columns. In this way he learned to read at sight. The next step was the arrangement of these printed and written words so as to form sentences. The first sentence was "I am a boy." From this we went to simple books.

In beginning to teach him to write, weeks of perseverance were required before success crowned the efforts of the child to hold a piece of chalk firmly enough to draw a line from one point to another. When he had grasped the idea of tracing lines and figures, we proceeded to draw letters, the printed capital "A" being his first independent and successful attempt. In a few weeks more he was able to hold and use a pencil.

In August, 1895, he wrote his first word, "my."

By this time his powers of observation had so improved that when a card, on which was a group of colored squares, not exceeding six, was passed quickly before his eyes, he could tell the number. In giving him pieces of candy, which he was fond of having, I taught him to add—not trying to go beyond the number five.

It was during this same month that colors were taken up. In this, as in most everything else, his toys were used, first balls, then blocks, and then beads. When he had learned to recognize one color, the next one given would be a decided contrast. Color naming came very easily to him. Every morning as the first exercise, he would tell me all the things he could do or see and I would write them down. From this he went to things he wanted to do, what others did, and what things were made of. Every day some new thought would divulge itself and would be welcomed with delight.

At first only three or four sentences were the reward of half an hour's work, but spurring him on by promising him the paper, he improved so rapidly that at the end of the term, June 29, he framed for me forty-three sentences in fifteen minutes.

The development of reason was plainly showing itself in the answers to questions given him, such as, "why do you wash your hands?" "Because they are dirty." "Why do you eat?" "Because I am hungry." "What do you do when it is dark?" "Light the gas." One of his greatest desires was to play games as his sister and brother did every evening. Among their games was Lotto, and this I chose in order that he might become familiar with the higher numbers. Beside this, the drill quickened the senses of hearing and sight and necessitated concentration and immediate action.

When I left him, June 30, 1896, he could write all his alphabet and several words—spelling and writing them as I dictated them; could add and subtract to six; could sing about twelve songs with piano accompaniment, and could read very nicely.

Among the difficulties encountered was teaching him to distinguish between heat and cold. Only by allowing him to find out from accidentally burning his finger when he put it in the gas or on a flat-iron, did he seem to understand the meaning of "hot." Holding a piece of ice or a snow-ball in the hand taught him the meaning of "cold." I am not convinced that he fully understands, as yet, bodily temperature. He seems to object seriously to being asked whether he is warm or cold.

Throughout my whole training of this child the single purpose was to make him natural in behavior, and as a part of this to observe, think and act for himself. The little traits and actions common to children I tried to bring out and cultivate in this defective child. The first appeal to him had been made through play, then through ambition to become "a great big man like papa," and then through his actual love for work.

A CASE OF OPIUM POISONING IN A CHILD THREE MONTHS OLD.

By W. Kaplan, M.D.,
New York.

THE following case illustrates the danger lurking in certain patent medicines. A few weeks ago I was hurriedly called to see a baby three months old, who was apparently dying from the effects of medicine administered by its mother. I found the baby in collapse. Its skin was cold, moist and covered with a clammy sweat; the pulse was feeble, hardly perceptible, and slow; the respirations were shallow and very slow, about ten to the minute, and the pupils were contracted to the size of a pin's head.

The mother said that half an hour previously she gave the child a dose of patent cough balsam for its cough and cold. The same medicine was given to an older child of four years, without ill effects, but the baby showed signs of distress immediately after taking it.

I diagnosed acute opium poisoning, and am glad to report that the child recovered after an emetic followed by stimulation with coffee, ammonia and artificial heat. I thought it noteworthy at the time how susceptible babies are to opium or its alkaloids, be the dose ever so small, considering that an older child of four years was not affected by a similar dose.

Observation teaches us how badly infants bear opium, and, as a rule, I never prescribe it in any form to a child under a year. I have often been called to attend babies in consequence of the reckless habit of mothers and nurses to drug their children with paregoric, but paregoric is usually accompanied by the direction of the doctor-druggist as to how many drops to give. A patent medicine, containing opium or its alkaloids, is a menace to the life of young children in the hands of ignorant people.

CONGENITAL SYPHILITIC DEAFNESS.

By Arthur H. Cheatle, F.R.C.S.,
London,
Surgeon to the Royal Ear Hospital and Senior Clinical Assistant, Aural Department, King's College Hospital.

THIS form of deafness is a labyrinthine lesion occurring usually between the ages of 14 and 20 years, the onset being insidious, as a rule, without vertigo, one ear being first affected, the other soon following suit, both gradually then becoming worse until complete deafness or greatly diminished hearing power is produced. Interstitial keratitis usually precedes the onset, the deafness being first noticed as the eye symptoms are clearing up, but this is not an invariable rule as, rarely, the ear precedes the eye trouble. The diagnosis is easy in a typical case, the eyes and teeth telling their own tale, the tuning-fork demonstrating the diminished tone conduction. If signs of present or old keratitis are not seen and the teeth are not characteristic, the fact of internal ear deafness insidiously coming on during this period of life without any ascertainable direct cause is more than suspicious.

As regards treatment, it is certain that unless begun in the early stage, none is of any avail; even when begun at the onset the result is extremely uncertain; arrest of the disease or slight improvement has been claimed for repeated blistering behind the ear and injection of pilocarpine subcutaneously, but it seems that when once the disease has started, treatment is too late to be of any avail. It must be preventive.

Lately I have been inquiring into the early life of patients suffering with the disease, with a view of ascertaining whether any prolonged anti-syphilitic treatment had been adopted in infancy; in not one of them have I been able to obtain a history of such treatment; the omission, I am convinced, is responsible not only for the ear, but for all the later manifestations of congenital syphilis. The responsibility seems to rest with those who have the care of congenital syphilitic infants. The question as to how long mercury should be given is an important one, and well worthy of investigation and discussion.

PRACTICAL NOTES.

To Draw the Cork of a Tablet Bottle.—In taking a look at the small bottles which are used to contain hypodermic tablets, and having demonstrated the impracticability of pulling the cork, especially when one is in a hurry, as one is likely to be when called upon to use the hypodermic syringe, Evans devised a method by which the cork is never broken, neither is the bottle broken in the attempt to remove a refractory cork that one has accidentally pushed in too far. As most corks are nearly the same in diameter throughout their entire length, he takes a common sewing needle and threads it double with No. 8 thread, having first tied two knots on the end. He forces the needle through the cork, beginning at the smaller end and piercing it lengthwise, then knots the thread again at its point of exit in such a manner that it cannot be drawn back. Then ties a knot about one-half inch from the last knot and clips off the thread. The cork can be drawn out at any time, even if it has been pushed in too far. The thread is always ready to pull upon, and is clean, neat, and very handy and inexpensive.—EVANS, *Med. Rec., 1896, l. 517.*

The Thyroid Treatment in the Idiopathic Tetany of Children.—The *Presse Médicale* for July 11th contains an abstract of an article which was published in the *Riforma Medica*, Nos. 115 and 116, 1896, in which the writer states that Dr. Leone Maestro has experimented with this method of treatment in three cases of tetany. The thyroid gland was given raw or slightly cooked. Small doses were given in the beginning and gradually increased until the amount of thirty grains a day was reached. The results obtained were very satisfactory in the three cases, and the author felt justified, in spite of the limited number of observations on record, in forming the following conclusions: 1. The administration of the thyroid gland is extremely useful in the treatment of idiopathic tetany in children, as it always diminishes the intensity and the frequency of the attacks, and shortens the duration of the disease: it also notably hastens the arrival of the latent period which precedes recovery. 2. The treatment is well tolerated by the children. 3. The organic changes, the digestive functions, and diuresis are not notably influenced by this mode of treatment. 4. The circulatory and respiratory functions are accomplished normally during this treatment. 5. In very young children, on account of their perfect tolerance, it is useful to administer the thyroid gland, raw or slightly cooked, internally. 6. With the exception of certain peculiar cases it is not necessary to suspend the treatment from time to time. 7. The daily dose is from thirty to sixty grains. 8. This treatment is not opposed to the symptomatic treatment, as it does not present any incompatibility with the methods ordinarily employed.—*N. Y. Med. Journ.*

Treatment of Erysipelas with Vaseline.—KOESTER (*Therapeutische Monatshefte*, June, 1896,) treats erysipelas in the following way: Vaseline is applied to the affected and surrounding parts twice a day; linen is laid over the vaseline, and a mask made if the part affected be the face. The dressing is held in place with gauze bandages. In other respects treatment is symptomatic—antifebrin or antipyrin for severe headache, and the same remedies, or quinine, when the temperature rises above 100°; ice bags to the head, laxatives, chloral, digitalis, and alcoholics, as indicated. The advantages of this method are: It can be used even upon the hairy scalp; smarting, burning and disagreeable odors are avoided; and the remedy is cheap.—*Therap. Gaz.*

An Ointment for Mumps.—According to the *Journal des Praticiens*, May 9, 1896, TRANCHET recommends the following:

℞ Ichthyol,
Iodide of lead, of each, 45 grains;
Chloride of ammonium, 30 grains;
Lard, 1 ounce.

This ointment is be applied to the swollen parts three times a day. In some instances vaselin may be used in place of the lard, and sometimes belladonna may be added with advantage.—*Therap. Gaz.*

Treatment of Burns.—Papazoglou (*Thèse de Paris*, 1896,), from practical experience, speaks favorably of picric acid as a local application in the treatment of burns. When the lesions are extensive the patient may be placed in a bath of picric acid; if they are limited, a solution of the acid may be applied, on antiseptic gauze, to the part. The following is the formula of the solution:

Powdered picric acid, 75 grains.
Alcohol, 2 ounces.
Boiled or distilled water, 1 quart.

The applications are employed for three or four days, strict antiseptic precautions being maintained. Even in severe burns two or three applications are said to be sufficient to effect a cure.—*The Practitioner.*

Clinical Thermometers should always be cleansed with antiseptic care after using. This is neglected by many physicians, even after use in the mouths of patients ill with infectious diseases.—*Med. Record.*

Injections of Serum in Cholera Infantum.—In fifteen cases of cholera infantum Reinach employed subcutaneous injections of cow's serum, in doses of from ten to twenty cubic centimeters. Four of the patients died; two had a concomitant broncho-pneumonia, and two a follicular gastro-enteritis of long standing. The effect of the injections manifested itself ordinarily in from six to eight hours after the administration of the serum, and from that time the temperature gradually rose, the extremities became warm, the cyanosis gave place to a rosy tint of the skin, and diarrhea was arrested. This condition generally continued on the following day, and recovery usually occurred after one injection only. In some cases, however, a second injection was necessary, in order to maintain the good results which were obtained by the first one. Besides these injections, rice water was given. The author states that, from a nutritive point of view, twenty cubic centimeters of assimilable serum are equivalent to five ounces of cow's milk, or to an ounce and a half of the mother's milk.—*N. Y. Med. Journal.*

Editorial.

THE TREATMENT AND TRAINING OF "BACKWARD" CHILDREN.

IN PEDIATRICS of October 15th, one of our editorial staff, Prof. Lightner Witmer, of Philadelphia, pointed out in considerable detail the necessity for the specialist in diseases of children, the neurologist and the pedagogue, to cooperate in a more enlightened treatment and education of that large class of children who present abnormalities of mental development, varying from slight "backwardness" up to complete idiocy, so-called idiopathic, or otherwise.

Dr. Witmer's presentation of the subject has attracted wide-spread attention, and in this issue we give space to an article from the pen of one who has had experience in the training of such children, in which is detailed the means and methods that were employed in laying the foundation of an idiotic child's education. No one can read the article without being struck with the success that crowned the efforts of this patient teacher and without wishing to congratulate her on the result of her rational labor.

If we mistake not, such articles from practical teachers, whether they be laymen or physicians, will be read with great interest by the pediatrist and neurologist who are frequently pushed to the end of their resources to suggest the disposition of these patients. We propose to publish, at intervals, a series of such articles, written by physicians and teachers who are actively engaged in the care of mentally defective infants and children, and if in this way we may aid in securing the cooperation of the specialist in the diseases of children, the neurologist and the teacher, for the aid of these helpless members of humanity, we shall be exceedingly gratified.

It needs no mention of the fact to bring the truth of it home to the mind of every physician, that really no effort worthy of the name has been made by the profession which he represents in behalf of this most pitiable class of patients. The little that has been done has been accomplished in eeleemosynary and private institutions, without his aid, and that largely because the physician has not been in a position to make substantial suggestions. A short time ago it was thought that the services of the surgeon might be invoked to considerable advantage in the treatment of some forms of idiocy; but no one can read the published experience of those who volunteered or contributed such help without carrying away with him the conviction that if operative procedure is not completely useless in almost every form of idiocy it is very nearly so. Pedologists have learned from the physician that this is so, and now we are anxious to hear from the former if they have anything to offer that will surpass the treatment that the latter has been able to suggest.

Society Report.

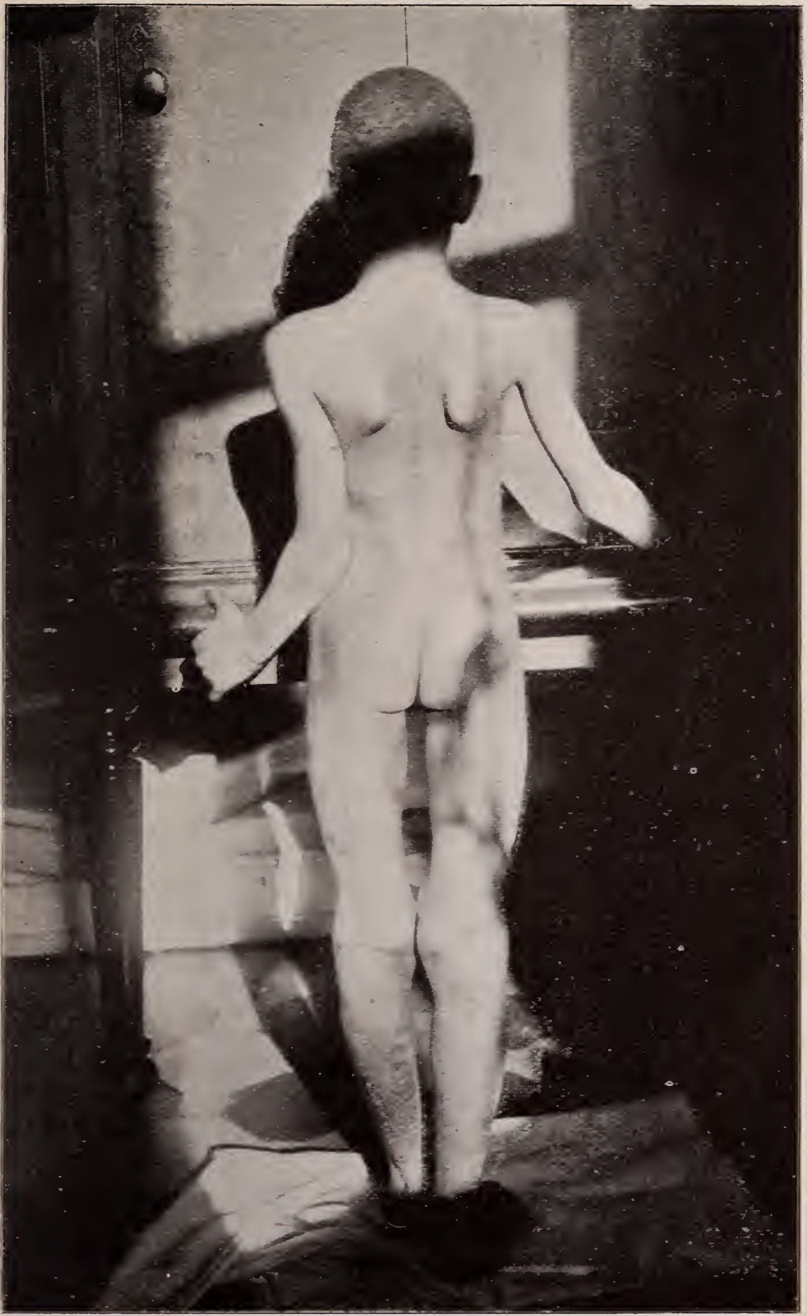
NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Stated Meeting, October 8, 1896.

Congenital Stenosis of the Pulmonary Valves. — Dr. H. Koplik first presented an infant supposed to have a congenital stenosis of the pulmonary valve. On auscultation, a distinct rasping murmur was heard over the second left intercostal space at the junction with the sternum. It was not heard behind, but was conducted to the apex. The finger tips were slightly bulbous, and here only was to be observed a slight cyanosis. The child was hardly what would be called a "blue baby." The degree of cyanosis varied from time to time.

The second case was a boy of fifteen years, who, up to the age of four years, was apparently well. At that time he had had an attack of illness, apparently a gastro-enteritis, and the mother had noticed that the child was blue and its extremities cold. There are six other children in the family, all of whom are healthy. This boy was born after a normal labor, and was breast-fed. On examination, one finds cyanosis to a very marked degree; the finger tips are bulbous; the body surface is below the normal temperature; there is great dyspnea, and the cyanosis is increased by exertion. There is dilatation of the right ventricle, the area of dullness extending 2½ centimeters to the left of the sternum at a level of the fourth rib. A loud murmur is audible at the second intercostal space on the left side, and is conducted toward the apex. Its greatest intensity is over the pulmonary area. The boy suffered from frequent headaches. A simple patent foramen ovale, Dr. Koplik said, would not give the rasping murmur. The great point of interest was the congenital stenosis of the pulmonary valve, with the probability of a patent foramen ovale.

Dr. J. Lewis Smith said that in reviewing the literature of congenital deformities of the heart and blood vessels giving rise to cyanosis, he had found that out of 162 cases the pul-



Dr. C. E. Nammack's Case.

monary artery was absent, rudimentary, impervious, or partly obstructed in 97 instances. The next most common defect was a transposition of the aorta and pulmonary artery, and next to that the division of the right ventricle into the cavities.

Dr. W. P. Northrup said that three years ago there had been two young "blue babies" at the New York Foundling Asylum. There was a very loud systolic pulmonary murmur, and the fingers were "clubbed" and blue. After reference to Dr. J. L. Smith's book, a diagnosis had been made in these cases of narrowing of the pulmonary artery or orifice, with defect of the septum ventriculorum. One child, the boy, suddenly became delirious and feverish. As Dr. Smith had stated in his book that these children frequently died from abscess of the brain, this diagnosis was made. The autopsy showed a narrowing of the pulmonary artery, just at the conus, a defect of the septum ventriculorum, and an abscess of the brain. This child was over two years of age. The other child still lives, although over two years old, but in all probability the same condition is present.

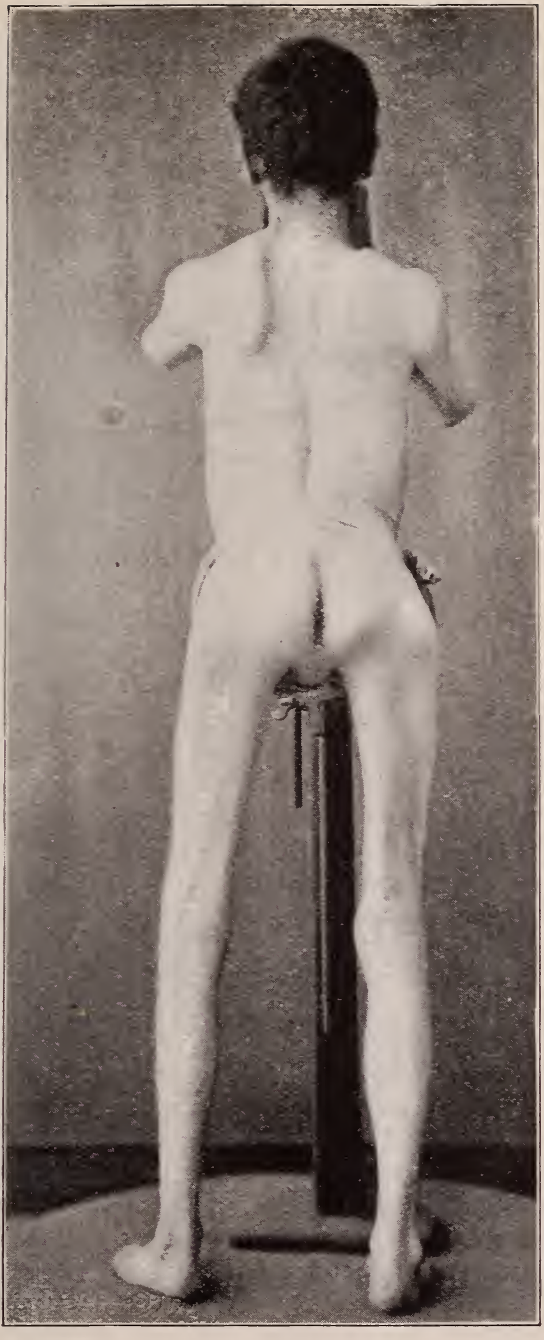
Dr. Koplik remarked that Sansom insists that one cannot differentiate during life between stenosis of the pulmonary artery and stenosis of the valvular opening.

Dr. Mary Putam Jacoby said she happened to know of one of these cases, a young man who lived to the age of twenty-six, who did not die of abscess of the brain. He lived in Spain two years, and was much improved by the warmer climate. He died of a fever common in that country.

Dr. J. L. Smith said that the character of the obstruction varied in different cases. In some extreme ones, only a cord was left to represent the pulmonary artery.

Dr. Edward D. Fisher said he could not see what possible connection there was between such a condition and abscess of the brain.

Arthritis Deformans.— Dr. William L. Stowell presented a case of arthritis deformans in a little girl of nine years. He said that children are not often affected, but quite a number of such cases had been reported. There was no history of rheumatism in the family. She was nursed for a year and a half. In 1893 she had fever and soreness of the limbs for several weeks. A month later the joints of the hands and wrists became involved. Three months after this the knees

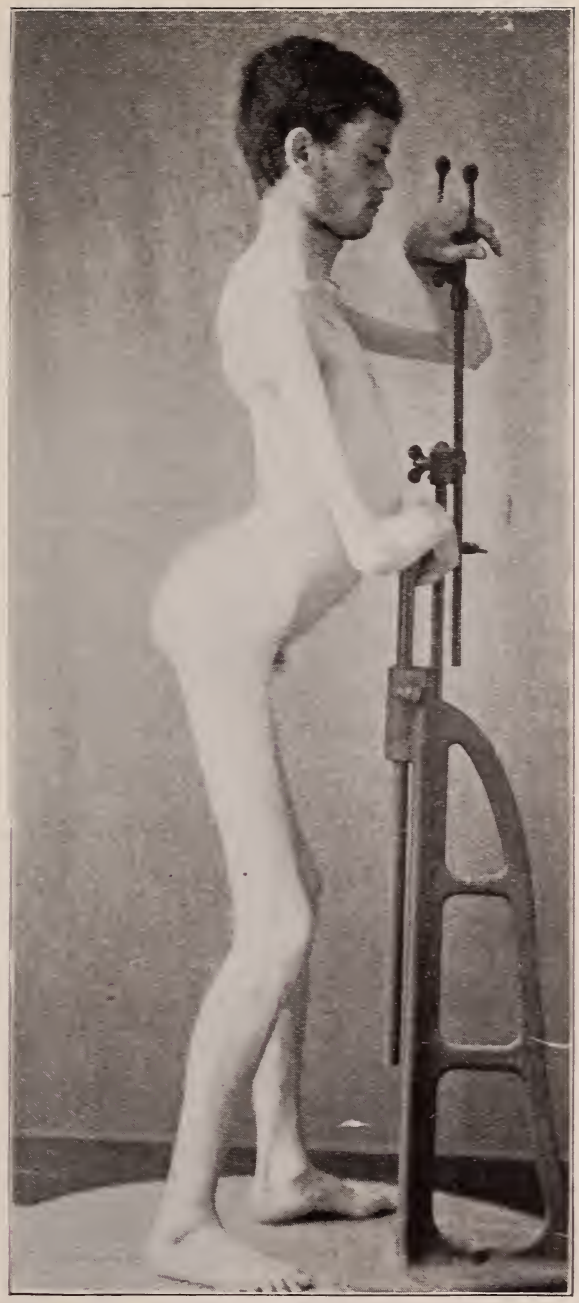


Dr. C. E. Nammack's Case.

became similarly affected. She was then in a hospital for seven months. In September, 1895, she was seen by him at the Randall's Island Hospital. At that time the head was flexed on the chest, and could not be moved upward at all; the chin almost rested on the sternum. The shoulder joints were semi-ankylosed; both elbows were enlarged and painful, and practically fixed in a semi-flexed position; the metacarpal and phalangeal bones of all the fingers were affected, the little finger the least. Both knees were greatly swollen; the legs were flexed upon the thighs at an angle of 45 degrees. The ankles were enlarged, and according to the record this had remained about the same for two years or more. The diagnosis was at once made of arthritis deformans. This child presented no evidence of disease of any of the viscera, hence, even from the outset, he had had great hope of improvement in one so young. The child was then in a most pitiable and helpless condition, being unable to play with toys, or even to sleep except in the sitting posture. At the present time she could play, and could even assist in dressing herself. There was now quite fair motion of the head—a vast improvement over what it was one year ago. For the last few months she had been making fairly successful attempts at walking. Part of the time she had been treated with iodide of potassium and wine of colchicum, and they had produced some improvement. Salicylate of soda had also been given, together with iron, cod liver oil and other tonics, but the most important part of the treatment had been the persistent use of massage. The weight of evidence seemed to be in favor of considering this disease of neuropathic origin.

Dr. Koplik said that the child had been under his treatment at the dispensary for nearly a year, but could not be properly attended to because of the absence of hospital facilities. At that time the child could not move the head or arms, and any attempt to do so caused extreme pain, and this, too, in spite of the fact that she had been given large doses of iodide of potassium and salicylate of sodium. It would seem, therefore, that the massage should be given nearly all the credit for the gratifying improvement noted.

Dr. S. H. Dessau said that there was a very similar case in the Montefiore Home, except that the latter had not improved under any treatment. The child was about six years



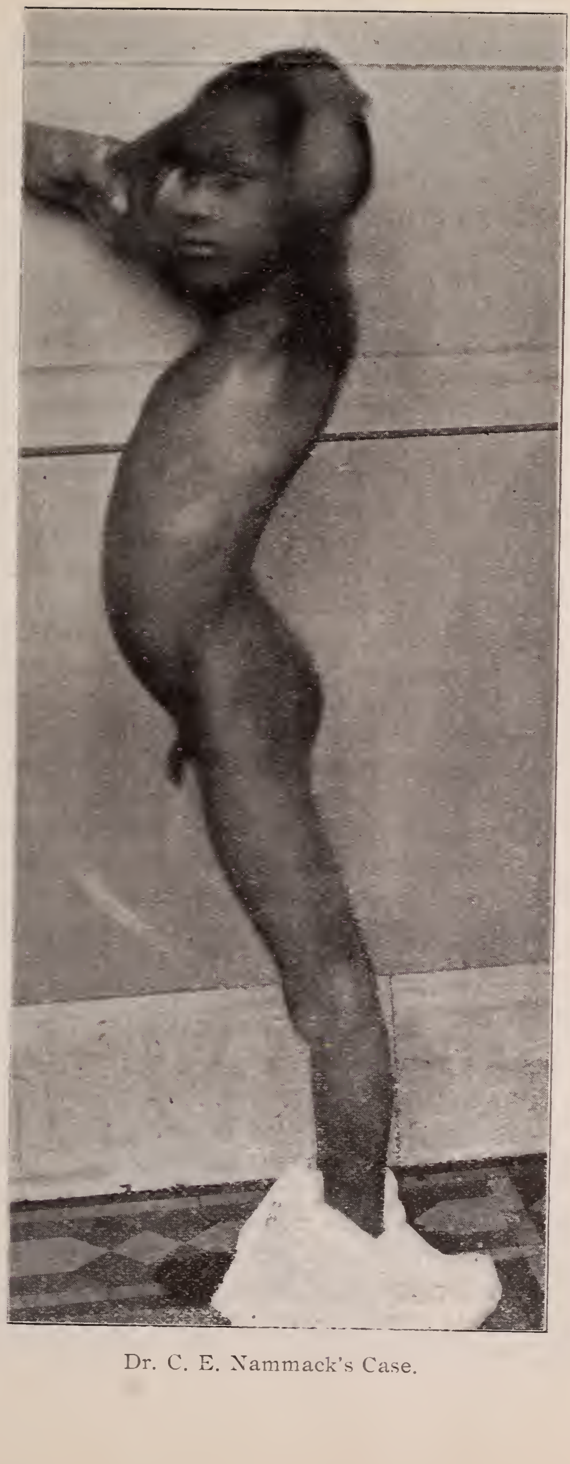
Dr. C. E. Nammack's Case.

old, and the disease had lasted about two years. Some time ago he had experimented with the bromide of gold, which had been vaunted as having much effect in these particular cases. It was used faithfully and in increasing doses for three months, but without any appreciable benefit.

Progressive Muscular Atrophy.—Dr. Stowell then presented a girl, thirteen years of age, showing progressive muscular atrophy. This had begun in the face and extended to the chest and muscles of the back. When five years of age she had had a mild attack of diphtheria. After a few months it was noticed that the face lacked its usual expression, and that the lips projected. A little later it was observed that she could not shut the eyes tightly, or closely approximate the lips. The muscles of the shoulder and back then began to waste. The muscles of the arm have wasted, but those of the forearm have remained unimpaired. The girl belongs to a large family, but all the others are healthy. The speaker said that in children, from two to ten years of age, there is usually atrophy of the face and arm. Out of 49 recorded autopsies, 39 showed lesions of the spinal cord. The treatment of this case had consisted in the administration of iron, quinine, strychnia and arsenic. The last remedy had apparently done the most good.

Progressive Muscular Dystrophy.—Dr. C. E. Nammack presented a man, twenty-six years of age, who gave no history of previous illness, but he had indulged freely in alcohol. Eight years ago he began to suffer from pain in the back, and shortly after this noticed a wasting of the muscles about the shoulder. Three years later the muscles about the hips and thighs began to waste. There had been no muscular twitchings, and no trophic disturbances. For three years prior to the development of the disease this man had been a contortionist. Locomotion is now utterly impossible, but he can maintain a sitting position.

Dr. Nammack also presented a little colored boy, who was noticed about three months ago to have a disinclination to go about. Then a weakness in the back developed, and more recently the child had been observed to frequently stumble and fall. The atrophy so far appeared chiefly in the shoulder muscles, but his neck and arms were said to have become decidedly thinner. There is an increase in the thigh muscles,



Dr. C. E. Nammack's Case.

and in those of the calves, showing that these muscles had reached the stage of fatty deposit.

Arthritic Muscular Atrophy.—A third case was presented, that of a boy of twelve years, who was said to have had an attack of rheumatism three years ago, affecting the right shoulder and side. Since then he had noticed a weakness and disability on that side. The muscles about the right shoulder were atrophied, and the infraspinatus and supraspinatus appeared to be chiefly affected, which was unusual. The case would be classified as an arthritic muscular atrophy. For the last month the mother had vigorously rubbed the affected muscles with soap liniment, and this had already caused some improvement.

Dr. Edward D. Fisher said that he had been much interested in the case of progressive muscular atrophy of the hereditary type. It was different from that form of progressive muscular atrophy of the spinal type. He could not see any family connection between the two diseases. He had observed this boy at Bellevue Hospital from time to time during the past two years. The type was typical—first the arm, with the escape of the forearm; then the thigh muscles, with the escape of the leg muscles. It would be a number of years before the muscles of the forearm and leg would exhibit the disease. The disease would probably not extend to the face. This form is called "hereditary," although in this instance there was no history of any other case of the kind in the family. It is nevertheless of that type which occurs usually in several members of a family. Sometimes there is also considerable hypertrophy. It was quite probable that the exercises that this contortionist had gone through had had something to do with the development of the disease. In the spinal type, poisoning by the metals was known to produce a typical spinal muscular atrophy. An electrical examination of either type showed that so long as there is a muscular fiber left there would be an electrical response. It was extremely rare that one would obtain in these cases the reaction of degeneration.

Dr. F. Peterson said he would not consider the colored boy a case of pseudo-hypertrophic paralysis, although there were some symptoms pointing to that condition. Examination seemed to indicate a spastic gait; the knee-jerks were exaggerated, and there was ankle clonus. This pointed to a lesion of the pyramidal tracts somewhere in the spinal cord. Furthermore, there had been lately incontinence of urine, and some rigidity of the neck muscles. He would rather incline to the view that there was a lesion in the cervical cord, but in the hasty examination made he would not offer this as a final diagnosis. As a rule, the differentiation of atrophies and the dystrophies was not difficult. The atrophies were generally called spinal; the dystrophies were primarily muscular—in other words, a disease of the muscular fibers in which they undergo degeneration at an early period of life. The differentiation is made on four different factors or symptoms. In the spinal forms of progressive muscular atrophy there is atrophy and fibrillar tremor; no heredity, and no hypertrophy, and the reaction of degeneration is present. In the dystrophies there is atrophy, but fibrillary tremor and the reaction of degeneration are absent.

Dr. J. L. Smith said that on seeing the colored boy he had at once thought the case to be one of pseudo-hypertrophic paralysis in its incipiency.

Rachitic Muscular Atrophy.—Dr. Henry Dwight Chapin presented an infant of fifteen months, showing rachitic muscular atrophy. The child was breast-fed for four months. Dentition began at seven months. The child was apparently healthy up to six months of age, but then it was noticed to be weak and irritable. The chief points of interest in the case were the existence of muscular weakness and some atrophy of the muscles. The cranial bones gave evidence of rachitis.

Severe Recurrent Epistaxis.—Dr. Koplik presented a child, who, at the age of eighteen months, had begun to have pains in the joints, associated with fever. These attacks simulated rheumatism, and recurred every year since then. Two years ago the child began to have frequent attacks of epistaxis at irregular intervals. When seen by him, about six months ago, the child was almost exsanguinated as a result of the epistaxis. A careful examination of the nose failed to reveal anything especially abnormal. Auscultation of the heart disclosed a double mitral murmur—presystolic and systolic—with great dilatation of the left ventricle. The child, although still anemic, was rapidly gaining strength.

Enlargement of the Liver.—Dr. Thomas S. Southworth presented a child of five years with an enlarged liver. The child had been born at full term after a normal labor, and was said to have been normal at birth except for a large belly. The child was poorly nourished for the first few months. When two years old the enlargement of the abdomen was so great that it was thought there was a sarcoma of the kidney. An exploratory laparotomy was performed, and the mother was told that there was cirrhosis of the liver. The child improved after the operation, but the abdominal enlargement continued. Previous to coming under the speaker's care there had been several attacks of unconsciousness, associated with cyanosis, which had led to treatment for epilepsy. When seen by him, about eleven months ago, the heart and lungs were negative, and the abdomen was prominent. There was no fluid in the abdominal cavity. The liver extended one inch below the umbilicus in the mammary line. The spleen was not enlarged. The urine was normal. The boy was put upon a diet of milk and rare beef, and was given bismuth freely because of the relaxed condition of the bowels. In May it was noticed that the liver was decidedly less prominent, and the general condition very much better. During the past summer there had been fever, vomiting, abdominal pain, and occasional attacks of diarrhea, with a yellowish tinge to the skin. Dr. Southworth said that in making the diagnosis, simple congenital enlargement of the liver, without minute changes, should be borne in mind, but there should be in this case no improvement under treatment. Chronic congestion would be found with chronic disease of the heart, but could be excluded in this case. Cirrhosis, in the majority of instances, affects children from seven to fourteen years of age, and in its causation alcoholism, syphilis and malaria are common factors. Syphilis and malaria could be excluded in the present instance. Fatty liver is common in children under five years of age. The course of the case in the past year would seem to bear out the diagnosis of fatty liver.

Progress in the Treatment of Cases of Cretinism.—Dr. H. Koplik presented several cretins to show the results of treatment with the thyroid extract. The first child had come under his care when twenty months old. At this time the symptoms of cretinism had been but slightly marked. The rectal temperature was 96 degrees F. It had had numerous abscesses, which would not heal. As soon as the child was put under the thyroid treatment the abscesses healed. When presented to the academy last fall, the hemoglobin had increased from 25 to 45 per cent., and at the present time it was 75 per cent. He had noticed lately that the child had not done well on the daily doses of from one-fourth to one-half a grain of the thyroid extract. This return of the symptoms he attributed not only to the small doses of the thyroid, but to the use of a bad preparation. Accordingly, the child had been put back on the thyroid preparation of Parke, Davis & Co., in larger doses.

The second child had been brought to him when eighteen months old, at which time the hemoglobin was only 18 per cent. It had a greenish complexion, a flattened nose and the thickened lips so characteristic of cretins. At the present time the hemoglobin was 75 per cent. The other day he had noticed that the child's hands were cold, but now the circulation was better since the doses of thyroid had been increased, and the preparation changed. It seemed that the dose must be increased as the child grows older. These children should be kept upon the largest doses of thyroid they will stand without having an elevation of temperature. At the beginning of the treatment the hair of this child was coarse, dry and of a reddish color; now it is quite silky. The child is making attempts at walking and talking. Both these children had been under treatment about a year and a half.

Dr. J. P. West, of Bellaire, Ohio, exhibited photographs of a case of cretinism which had been published in May, 1895. They showed a very remarkable improvement as a result of the treatment. During the first year of treatment an attempt was made to keep the child on as large a dose of the thyroid extract as possible. It was found after trial that the child did best on one grain a day. This was kept up for several months. After nine months of treatment he had been able to give her one grain and a half of Parke, Davis & Co.'s preparation, twice a day. It was possible that the child's surroundings had something to do with her improvement, for she lived one mile and a half out of town on a high hill. During the first year of treatment she grew eight inches and a quarter, and gained fourteen pounds—*i. e.*, nearly doubled her weight. After she had been under treatment a year, the thyroid was stopped for three months, and during that time the peculiar appearance of the cretin returned, and she became much more stupid. She was then put back on one grain and a half a day, and this was kept up until the first of this year. Since then she had had one grain and a half twice a week, on alternate weeks.

Administration of Ether to Infants.—Infants are readily brought under its influence without the slightest cyanosis. The young administrator may be puzzled at first how to estimate the degree of anesthesia produced in so young a subject. The writer has found the following method of great service: Place the index finger in the infant's hand, and it will be found that during the earlier part of the administration the finger is grasped very tightly, the palmar reflex being active; but as insensibility approaches, the infant's fingers gradually relax, and so soon as they become lissom the operation may be commenced. As in the case of adult patients our guide is the conjunctival reflex, so in the infant one should devote his constant attention to the amount of palmar and digital reflex action present. This method is preferable to the conjunctival test, because the conjunctiva of a baby loses its sensitiveness very quickly after being touched a few times with the finger. The infant may appear to be thoroughly insensible by the conjunctival test when it is actually on the point of recovering from the anesthetic, and under such conditions the reapplication of the face piece will cause struggling, to the great inconvenience of the operator. The writer has never seen bronchitis due to the administration of ether produced in a baby, but he is exceedingly careful to guard against cold air being breathed for several hours after the operation. The opening of a window is strictly forbidden, and when possible the baby is not even removed from the room in which the operation has been performed for at least six hours, and he finds that when these directions are strictly adhered to there is no danger of bronchitis occurring; moreover, the tendency (if any) to sickness is greatly diminished, and this he attributes to the non-stimulation by cold air of the nerves supplying the lungs with the consequent reflex action on the stomach.—F. WOODHOUSE BRAINE in the *Practitioner*.

Abstracts.

ETIOLOGY AND DIAGNOSIS OF EPIDEMIC CEREBRO-SPINAL MENINGITIS.

O. Heubner (*Deutsche Medic. Wochenschr., 1896, xxii, 423*). The relation of the pneumococcus to cerebro-spinal meningitis, as a cause, is not satisfactory. Weichselbaum in 1887, and later Jaeger of Stuttgart, demonstrated in epidemic meningitis another micro-organism, which he found in the meningeal exudate, whose individuality is positive. Its characteristic is that it appears in the form of a diplococcus, frequently as a tetracoccus, and is usually found *within the pus cells*. These physicians demonstrated this meningococcus intercellularis in the bodies of those dying of cerebro-spinal meningitis. The author believes that he was the first one able to demonstrate this microbe in the living subject. His first case occurred in the spring of 1895, in a girl one and a half years of age, in whom a diagnosis of cerebro-spinal meningitis had previously been made. Since then, six more cases occurred in his clinic, and Dr. Finkelstine added two more from other clinics. In all the cases which died, the autopsy confirmed the diagnosis. In these cases, spinal puncture, according to Quincke, yielded a turbid, sometimes even a purulent fluid, which contained pus corpuscles in great number. Within these there was always discovered the diplococcus or tetracoccus, and in such numbers and arrangement as to remind one strongly of the behavior of the gonococcus. It seemed important to discover whether this new microbe would also produce imflammatory conditions in animals. This was done in the following manner: The needle of a hypodermic syringe, after shaving and disinfecting the skin of the animal, was plunged between two spinal processes in the lumbar region, and when a few drops of clear fluid oozed out through the needle the infected liquid is then injected into the dural sac. The first experiments were negative, although pure cultures from Jaeger, from the author's own cases, and fluid taken directly from the spinal canal of a patient was used.

It was then supposed that the animals used in the experiment were immune to this poison and others were taken. In a young dog the experiment was still questionable, but in two goats an undoubted positive result was obtained. One of these goats, previously perfectly healthy, was injected with a bouillon culture of Jaeger's germs. She soon became quite feverish, and died in one and a half days. Autopsy disclosed a hemorrhagic spinal meningitis, and from all the diseased portions proof of the presence of the meningococci was obtained. The second animal was inoculated twice with a watery culture from one of the first cases, with the result that it sickened, but soon recovered from the fever, and rapidly emaciated. Lastly, the liquid exudate from the fifth case was directly injected into the animal; soon after it became ill and died within a day. At the autopsy a meningitis, extending the entire length of the spinal cord, was found, with hydrocephalus acutus. In the hydrocephalic fluid were found pus cells containing the tetracocci. These experiments seem to prove that the virulence of the meningococci is not as great as that of the pneumococci. The injection of some pleural exudate containing pneumococci into the spinal sac of a rabbit rapidly caused the death of the animal, while the fluid containing the meningococci had no ill effect on it before. This lower virulency of the meningococcus explains some clinical and epidemiological facts. A meningitis produced by the pneumococci is seldom recovered from, and frequently produces death in a few days. In epidemic cerebro-spinal meningitis, about one-half or one-third die, and the duration of the disease often stretches over weeks or even months. Should it be still further proven that the meningococcus intracellularis stands in etiological relation to epidemic meningitis, we would be able by lumbar puncture to differentiate the sporadic cases of cerebro-spinal meningitis from epidemic meningitis.

ON THE CARE OF PREMATURELY BORN INFANTS.

A. Schmidt (*Jahrb für Kinderheilkunde, 1896, xlii, 301*) says that the proper feeding of prematurely born infants is certainly a very important question; but, even more so is the temperature in which such a child is kept. It is not sufficient to clothe them warmly, pack them in cotton and place warm bottles about and around them, but it is equally important, in washing and dressing them, in carrying them from one room to another, in the opening of windows and doors, to be exceedingly circumspect that they never be subjected to draughts or to sudden changes of temperature. It is not absolutely necessary to use an incubator. The same object may be attained without the use of this complicated apparatus, if the child, after being warmly dressed and surrounded with cotton and warm bottles, be placed in front of a hot stove. By weighing the child daily, it was demonstrated that hardly anything had such an influence on the steady increase of bodily weight as an even, high temperature. The temperature of the room should at first be kept, day and night, at 72½° to 75° F., and the very slightest deviation from this rule would have a bad effect on the weight of the child. Even a slight fall in temperature, or the washing and dressing of the infant too slowly, or too far away from the heat of the oven, would invariably produce dangerous symptoms of collapse. The use of two rooms, one of which could be ventilated and again heated before the infant is brought back into it, would be advisable. Prematurely born children should not be bathed at all during the first two months of their existence. They should be quickly washed with warm water, once a day, and only one part of the body at a time should be exposed. The tender skin must be carefully washed and dried with cotton batting, and a powder of talcum and zinc oxide thoroughly dusted on the parts most prone to become excoriated. Abrasions must be touched with a little brandy before powdering. These children are to be taken out into the air only with the greatest caution. It was found that a child, who had gained half a pound every week, showed great disturbance in its progress from the day it was taken out into the warm sunshine and perfectly still air of the garden. There was absolutely no other reason for the sudden and enormous retardation of its increase in weight. In some cases, however, it may be beneficial to give them an airing after a few weeks, but it should only be done during the hottest days of summer, when there is a total absence of wind. Never should these children be taken out of their pillows, or laid on the ground. Their clothing should be the same as other babies, but should be thoroughly warmed before the fire until perfectly dry, then wrapped around a hot warming bottle and transferred directly on to the child's body. It is absolutely necessary that a little woolen shirt with sleeves should be slipped over the muslin one. Should the child vomit during sleep every other material will become soaked and wet, wool not taking up water so readily allows the greater part of the fluid to run off and the skin of the child remains dry and warm. Very frequently children are protected only by one muslin diaper, without an additional flannel one over it. These children after urinating suffer from a cold and wet abdomen, and severe colds and disturbances of nutrition may result from this. A flannel diaper should always cover the cotton one. It should be of square shape during the first eight weeks, and fastened around the body and thighs from the outside, not like the triangular cloth passed between the thighs, because the presence of such a quantity of material is apt to press the thighs apart and produce sabre legs. After eight weeks a triangular flannel may be used to cover the cotton diaper.

It may be advisable at about the seventh to the ninth month, when the child by its lively movements continually displaces the diaper, to give it two pairs of small trousers, the outer being made of flannel.

Prematurely born children usually sleep day and night if they progress favorably, therefore it is necessary from the first to carry them about the room, warmly packed up, for ten minutes three to four times a day. While they are lying in bed, their position should be changed every two hours to prevent hypostatic congestion of the lungs.

A CASE OF ANTITOXIN POISONING.

L. Rosenberg (*Med. Rec., 1896, l. 460*) reports the case of a girl, aged four, who was taken sick on Sunday, July 5, with sore throat and a rise of temperature to 101.5° F., per rectum. On the 6th, the appearance of a small membrane on each tonsil warranted a clinical diagnosis of diphtheria (subsequently verified by culture), and she was given one injection of two thousand units of antitoxin. This was at about 1:30 P.M. She slumbered quietly for about an hour when the mother (an unusually observant and intelligent woman) noted that the child appeared to become cyanosed. She awoke, complaining of cold, and was taken with a severe, prolonged chill; lapsed into unconsciousness and collapse. The child was *in extremis*. The temperature per rectum was 109° F. He gave the child one one-hundredth grain of strychnine hypodermatically, and two minims of digitalis fluid extract in ether. The pulse was scarcely perceptible. The patient was rigid, icily cold; the pupils were dilated to their utmost; a profuse perspiration appeared all over the body; a large quantity of coal-black feces was involuntarily expelled, resembling meconium, but of darker hue and staining everything with which it came in contact. Nitroglycerin, one-fiftieth grain, was injected under the skin. It was found necessary to repeat this in twenty minutes. The pulse rallied nicely from this, but the condition was extremely menacing. There was more or less rigidity, notably of the muscles of the neck; there was partial opisthotonos; the surface temperature continued frigid and the skin clammy. Hot-water bottles were placed all about the child. Four ounces of strong coffee, with two ounces of cognac, were thrown into the rectum, hot, and were retained. This was repeated in an hour. The nitroglycerin had to be exhibited freely and frequently, the heart action being extremely feeble and irregular. In all, the patient received one-eighth grain between 3 and 8:30 P.M., when she began to rally. Although still unconscious, her pulse was slower, full, and regular; the normal bodily temperature obtained, the pupils were less widely dilated, the temperature was 103° F. per rectum, Nourishment could not be given; an enema of whiskey, milk, and egg was not retained.

This condition continued as described until midnight, when she came out of the stupor. Attempts were then made to nourish her with small doses of champagne and an infant food, but the stomach rejected everything. The vomit was fluid and inodorous, but contained the same dark coloring matter as the stool before described. The rigidity gave way to extreme restlessness, the patient writhing about in the bed, with very short intervals, during which opisthotonos would recur. Ten grains of sodium bromide were given per rectum, without benefit. The extreme nervous perturbation continued.

At 11 A.M., Tuesday, the temperature was 101° F.; the stomach was still rebellious. The child was fully conscious, but complained of nothing; the restlessness was unabated. A second rectal injection was given, containing ten grains each of sodium bromide and chloral hydrate, and two drachms of whiskey. The stomach was quieted by one-twelfth grain of morphine, given hypodermatically. From now on the condition became more tranquil, the child slumbering, though fit-fully. The stomach retained small doses of fluid nourishment; the temperature fluctuated between 101° and 102° F. during the day.

Wednesday morning the temperature, pulse, and general condition were as nearly normal as could be expected under the circumstances. The membrane had entirely disappeared. The first urine obtained (twenty hours after the onset of the collapse) was foul smelling and strongly alkaline, but free from albumin or blood. The subsequent history was uneventful, and the child is as well as ever. The small quantity of iron which the child received before the antitoxin was resorted to was insufficient to give the stool the deep black color it presented. The dark color of the vomit is also unexplainable. The condition of the digestive tract had been normal prior to the illness. Elsie, an older sister, had been given three hundred units of antitoxin from the same source, without any untoward symptoms developing. The injections were made by one of the most experienced physicians on the staff of the health board.

CEREBRAL HEMORRHAGE A COMPLICATION OF WHOOPING-COUGH.

Oppenheim (*Deutsche Medic. Wochenschr.*, *1896*, *xxii*, *269*) says that this complication, which is one of the most unusual, has been observed by him in one case. On July 12, 1895, in the evening, the 8-year old patient, who was suffering from whooping-cough, was thrown into a very peculiar condition. He lost consciousness, threw himself continuously about in his bed, and emitted unintelligible sounds. Fever was absent and reflexes of the pupils and tendons were normal. As the patient had vomited once and no movement of the bowels had taken place in two days, he was given an enema and some calomel powders, but without the desired effect. During the night the restless agitation gradually changed to a deep somnolence. Then there occurred slight twitchings, first in the area of the right facial muscle. These twitchings became more severe during the following day and gradually extended over the right half of the body. The convulsions occurred periodically and were nearly always terminated by a paroxysm of whooping-cough. At the height of the disorder, in the afternoon of this day, the paroxysms occurred every 5 to 10 minutes, in spite of rectal injections of the bromides. During the next night a temperature of 39.2° C., and a pulse of 120 were observed at one time, most likely due to the severe agitation of the muscles; at other times the pulse was 80 and the temperature normal. From the third day the frequency and intensity of the paroxysms gradually diminished, and during the intervals of rest a total paralysis of the right extremities was demonstrated, and an absence of the tendon reflexes of this side. On the eighth day the sensorium began to clear up somewhat; the patient frequently asked for a drink, but did not seem able at times to find the correct words. On the tenth day speech became normal, and gradually the functions of the leg and of the arm returned. The tendon reflexes also became normal and the twitchings ceased, but the whooping-cough remained. At the end of the third week the patient was able to be about and was apparently well. This case was undoubtedly one of hemorrhage into the right cerebral hemisphere, caused by a rupture of a vessel during a paroxysm of whooping-cough. The boy had been taught by his father to close both mouth and nostrils and blow up the cheeks when an attack commenced, and very likely the high tension of the blood pressure gave rise to the rupture.

A FATAL CASE OF PETROLEUM POISONING IN A GIRL TWO YEARS OF AGE.

A. JOHANNESSEN (*Berlin clin. Wochenschr., 1896, xxxiii, 318*) reports that on December 8, 1895, at 6 P.M., a two-year-old girl, who had swallowed an unknown quantity of American petroleum, was brought to the clinic. The girl, who came from a tuberculous family, was said to have frequently suffered since she was two months of age from attacks of diarrhea of variable duration, and never to have been free of it for longer than one month at a time. The last attack occurred three weeks ago and lasted eight days. Vomiting was seldom present. Patient was always delicate.

Present state: Patient is pale, lips somewhat cyanotic, respiration slightly labored (56), heart sounds clear and distinct, temperature 37.5 C. The patient is stupid, but not comatose; the pupils are not dilated and react well to light; the pulse is 144 and somewhat irregular; a rhachitic rosary and some thickening of the epiphyses are present. The expired air has the odor of petroleum. Copious vomiting was induced by passing the finger down her throat. The vomited material contained much mucus, a little blood, and had a strong odor of petroleum. The stomach was washed out. The return fluid smelled strongly of petroleum. After half an hour the finger was again introduced into the throat, but it caused but little vomiting. A subcutaneous injection of one gramme of oil of camphor was made. The pulse improved and the patient rallied somewhat. The bowels were moved by two enemata; the discharges smelled strongly of petroleum. At 7:30 P.M., with a temperature of 37.4° C., renewed somnolence appeared, the respiratory difficulty increased, the pulse became smaller and irregular, and the patient died, comatose, at 9 P.M.

The autopsy did not reveal any pathologic-anatomical changes to explain the death. The heart was dilated, but not fatty; neither were the kidneys nor intestines degenerated. Marked atelectasis and congestion of the lungs were present, but no pneumonic infiltration. The negative result of the autopsy, as well as the symptomatology, seemed to point with certainty to an intoxication of the cerebro-spinal system primarily, as we meet with in quite a number of other poisons, as well as in poisoning by the carbo-hydrate series, and their derivatives, of which the American petroleum is composed, and to which such poisons as fire-damp, ether and alcohol belong. The action of these compounds depends, in all probability, in influencing particular ganglia. Kobert also places petroleum among the cerebro-spinal poisons. The foregoing case is the first authenticated one where death has been caused by the ingestion of petroleum. What caused death is difficult to determine; animals which have been poisoned by petroleum presented the same congested condition of the lungs as was found in the case just described.

A CONTRIBUTION TO THE CASUISTRY OF OPIUM POISONING.

Eschle (*Therap. Monatshefte, 1896, x, 236*) was called, December 20, 1895, about 7 P.M., to the patient, a girl four years of age. The child was found in a condition of stupor, which was periodically interrupted by opisthotonos, trismus and intermitting convulsions. Severe expressions of pain were easily induced by a light contact with the skin. Both pupils were dilated nearly to their maximum extent and did not respond to light. The face was suffused, the skin hot and dry and the pulse small and retarded. Her condition had been noticed in the forenoon, but became more marked toward evening. Frequent vomiting of bile occurred, but no movement from the bowels.

Etiology: The patient had been in bed since the preceding day, and during the night, towards 11 o'clock, she became so restless, after having coughed a great deal, that her mother administered twelve drops of some medicine which a physician had ordered in a previous attack of the same kind. The medicine consisted of pure tincture of opium, as was discovered later by questioning the apothecary. The child was given a luke-warm bath, poultices were applied to the abdomen, and ice pellets given internally. At 9 o'clock the patient went into deep coma; there were no convulsions; the face became pale, the skin moist, the respiration shallow and slowed (10 to 12), the breathing quiet, the pulse small, irregular, arhythmic (58–66) and the temperature in the axilla was 38.4° C. The child was given an enema of soap and water, and infusion of belladonna with syrup of senna. During the night vomiting occurred several times, but no stools. The medicine could only be given very irregularly on account of the stupor. At the next visit, on the following day, the mother reported that the pupils had been markedly contracted, and added that the patient had been unable to empty her bladder.

Present state: Deep stupor, no convulsions, troublesome cough, pupils of medium size and react to light, skin dry and not cool, pulse fairly strong (82), respiration 16 to 18 a minute, temperature 40.2° C. Dullness detected at the posterior lower aspect of the right lung, with diminished and rough breath sound. The symptoms of intoxication improved very slowly during the next two days, while the fever, cough and other pneumonic symptoms persisted until the occurrence of the crisis, in the night of December 26–27. Convalescence proceeded uninterruptedly and the child was dismissed on January 2, 1896.

Remarkable in this case of opium poisoning was first the long duration of the symptoms, and the dilatation of the pupils at the height of the symptoms. Eschle makes the following points:

(a) The center for the dilatation of the pupils may be directly excited by the venous blood which circulates in it. Accordingly, when respiration is defective, or during an attack of dyspnea, a considerable dilatation of the pupils may be induced, while, on deeper asphyxia, a paralysis of the center takes place and the dilatation disappears. In this case, the hyperemia of the lungs may have been the cause of the dilatation.

(b) A few dilating fibers are present in the fifth nerve, but most of them take their course down the spinal-cord to the cilio-spinal region, in the lower portion of the neck, and the upper portion of the posterior part of the spinal cord. From here in the ape, and probably, also, in man, they pass by way of the second spinal nerve into the neck portion of the sympathetic, from which they again ascend to the eye. The irritation of the sympathetic may have been induced by the excitation of the gastro-intestinal tract (vomiting). On the other hand, opium, in very large doses, produces an irritation of the spinal column, although at first, and in small doses it acts on it as a sedative. Very noticeable was the great increase of reflex irritability in this case, which rather simulated a poisoning by strychnine; lastly the concurrence of a pneumonia is rather remarkable. It is quite likely that the symptoms which induced the administration of the opium were already these of the beginning pneumonia, though the opium intoxication might have produced a marked hyperemia of the lungs favorable to the carriers of infection which produced the catarrh of the air-passages. Lastly, the surprising fact may be mentioned that a physician should have ordered twelve drops of pure tincture of opium to be given a four-year-old child *pro re nata*. The doctor had been consulted by the mother for cramps, from which "her girl" suffered, and not having seen the patient nor instituted strict inquiries, ordered the opium, believing the patient to be a domestic and suffering from "menstrual colic."

EXTIRPATION OF THE UTERUS AND VAGINA IN A CHILD NINE MONTHS OF AGE.

Hollander (*Deutsche Medic. Wochenschr., Vereins Beilage, 1896, xxii, 16*) demonstrated, in the Freien Vereinigung der Chirurgen, the specimen of a total extirpation of the uterus and vagina obtained by Prof. Israel from the following case: The patient was a child from a healthy family, who suffered at the early age of seven months from profuse hemorrhages of the vagina. The physician removed a partly decomposed vaginal polypus of the size of a pigeon's egg. A microscopic examination proved it to be a sarcoma. Prof. Israel was engaged to do a radical operation. The vaginal exploration revealed an irregular, rather firm tumor of the size of an almond, which filled the posterior portion of the vagina, obstructing the passage to the vaginal portion of the uterus and forming a mass with the uterus itself. Under chloroform narcosis, the field of operation was exposed by an incision reaching from the posterior superior spine of the ilium to the tip of the coccyx, carefully avoiding the nerves and pudendal artery. The greatest difficulty experienced, owing to the minute proportions of the parts, was the liberating of the vagina from its surrounding connections. A small peritoneal tear was made use of to draw the retroverted uterus out of Douglas' cul de sac, to free it from its adnexa and to remove from the wound in this way the whole internal genitals *in toto*, without bringing the sarcoma in contact with any of the surrounding parts. The vagina was then cut off about 1 cm. above the vestibule and the wound sewed up. In four weeks the patient was discharged cured.

Description of the Preparation: A tumor, somewhat lobulated, irregular and firm, about 2½ cm. broad and long. The tumor, which is sessile and involves the whole thickness of the wall, is a spindle and round-celled sarcoma. The surrounding mucous membrane has a slightly granular appearance in two spots, and there are present a few cock's comb like excrescences on the opposite and anterior side. These fine warty growths mark the commencing grape-like character of the neoplasm. This grape-like sarcoma of the vagina differs both pathologically and clinically from the primary vaginal sarcoma of the adult. All the 15 cases previously reported of congenital sarcoma of the vagina were fatal, no radical operation having been attempted in any of them. Recurrence was the rule within a few weeks, sometimes within a few days, where the operation only aimed at the removal of the polypoid masses. In only one case, that of Schuchardt, an operative success was obtained. This was a tumor springing from the lower part of the posterior vaginal wall, which was removed along with the portion on which it rested, by Volkman. After 6½ months it recurred, when one-half of the posterior vaginal wall was removed, with the result that the child was cured, and now, after ten years, is a robust and perfectly healthy girl.

CARIES OF THE SPINE.

H. SCHRAMM (*Wiener Medic. Wochenschr., 1896, xlvi, 958*) reports 110 cases treated by himself; in 10 cases the affection was situated in the vertebra of the cervical region, in 66 in the dorsal, in 21 in the lumbar, and in 3 in the sacral; in 10 cases the situation is not mentioned. In regard to the etiology some traumatism is to be accepted as one of the most important causes, because the tubercle bacilli have a tendency to infest slightly injured bones or joints. The reason why caries of the spine is most frequently met in children under four years is that during this period they are most prone to injury, either by falling or being carried in a slovenly manner. Heredity is also a great factor in caries of the spine. In 25 cases the disease was developed as a sequel to other maladies; in 12 cases it followed whooping-cough, in 8 measles, in 5 some other febrile disorder. Of course these diseases only predisposed the system to the reception of the tuberculous virus. In the majority of cases there was present at their reception a pronounced kyphosis, only in one case was this absent. A boy, 6 years of age, who came to be treated for a cold abscess, situated above the right Poupart's ligament, and in whom the abscess was said to have developed in three months without any great discomfort. After the abscess had been opened by a broad incision, it was found that the origin of the suppuration was in the first lumbar vertebra, whose anterior surface, as far as the finger could reach, was roughened. Notwithstanding the best after-treatment, the child became gradually worse, and left the hospital incurable. The case proved to be one of *spondylitis superficialis.* Hoffa claims that these forms are due to actinomycosis. Microscopical examination did not warrant this diagnosis, but on infecting a rabbit with some of the pus, the latter died of acute miliary tuberculosis, hence the case was undoubtedly one of tuberculosis. As to the frequency of abscess formation in disease of the different vertebra, there was suppuration present in 40 per cent. of the cases of caries of the cervical, in 36.4 per cent. in that of the dorsal, in 70 per cent. of the lumbar, and in the three cases of the sacral region. It is not to be inferred from this, however, that tuberculosis of the dorsal region has a lesser tendency to the formation of abscesses. The course pursued by the abscesses was various; those originating in the cervical region presented in two cases as retropharyngeal abscesses. In one case it descended along the deep fascia of the neck to the *fossa supraclavicularis*, and in another case of caries of the second and third cervical vertebra it made its way backwards and appeared close to the spinous process of the diseased vertebra. In 68 per cent. of the cases of disease of the dorsal vertebra, the suppuration extended along the anterior surface of the vertebra, and in one case the abscess which had reached the posterior mediastinum, burst into the pleural cavities, and, producing an acute pleurisy, caused death. In other cases the pus traveled further downward and appeared above or below Poupart's ligament or invaded the intermuscular spaces of the thigh, presenting a fluctuating tumor at the anterior, internal, or posterior surface of the thigh.

A second complication of spinal caries is the so-called compression-myelitis. According to later researches this is not caused by the kyphosis as such. Very rarely also do the abscesses exert a direct pressure on the spinal cord. The symptoms are produced by a serous infiltration of the meninges and of the spinal cord itself.

The prognosis in caries of the spine is bad, particularly as we never can be certain in what stage the disease may be checked. As a general rule the prognosis may be influenced by:

(1.) Heredity. In children whose parents have been tuberculous or luetic, the affection is exceedingly grave.

(2.) The general condition of the patient's health. If the vertebræ only are the seat of disease, and the organism is otherwise healthy, the prognosis may be better.

Treatment: Fresh air continually supplied to the patient is of immense value. Locally the gypsum bed, as described by Lorenz and Hoffa, was used. The child was laid on a flat table and thick bolsters were placed under the forehead and pelvis, which position curved the spine slightly forward. Then the whole back was covered with gypsum bandages, from the back of the head to the gluteal folds, carefully pressed into all folds, particularly at the neck and the pelvis. After having applied ten to fifteen layers of the bandages, the whole was strengthened by thick layers of wood shavings, soaked in a mixture of gypsum and water. Lastly, it was well padded, and the child was laid in it and fastened there with broad bandages. In a number of cases he made use of extension of the spinal column by fastening a weight of three to six kilogrammes onto Glisson's loop, attached to the head of the patient, and laying the child on a hard mattress at such an angle that the weight of the body produced counter-extension.

Where abscesses were formed, different procedures were adopted; some were incised and others were aspirated and washed out with a solution of boric acid, then injected with 30 to 50 grm. of a iodoform-glycerin emulsion (1:15). The conclusion was, however, reached to let the abscess alone if possible, and by dietetic and climatic treating to counteract the original disease.

During late years it has been recommended to resect the diseased parts and thoroughly scrape out the disease. He resorted to this treatment in five cases, but can only recommend the operation where it is possible to approach the diseased part without having to resect much healthy bone, or where the suppuration is due to a remaining sequestrum.

Chorea.—Dr. E. De Renzi (*Gazetta degli Ospitali e delle Cliniche*, 1896, No. 29), has made use of eserine, antipyrin, salol, and ether spray along the vertebral column, but he places his confidence in only three remedies: (1) Absolute rest, the patient being placed in a dark room and avoiding all external excitation whatever. (2) The ascending electrical current along the spinal cord—the best result with a gentle current progressively increased. (3) Arsenic in large doses, commencing with twenty drops of Fowler's solution each day for children and double this amount for adults. The medicine should be continued after the chorea ceases, for the disease readily returns. The nutrition of the patient must be maintained and good food and gymnastics are useful.—*Med. Record.*

PEDIATRICS

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Original Articles.

ENDOCARDITIS IN CHILDHOOD.

By Charles Godwin Jennings, M.D.,
Detroit, Michigan.

ENDOCARDITIS is one of the grave complications of certain diseases of early life. It is rarely a primary condition. It results from the colonization of the micro-organisms of an infectious disease upon the endocardium. A majority of the cases of valvular heart disease that are met with in early life are the result of an endocarditis.

The distress and disaster that it brings into the life of these patients, the difficulty of its early recognition, and the importance of its proper treatment demand that the possibility of its presence should always be remembered by those who have the care of children with acute diseases.

Every case of acute rheumatism, of chorea, of scarlatina, and, less emphatically, of diphtheria, measles and other infectious and septic fevers should be looked upon as a possible cause of endocarditis.

Seventy to eighty per cent. of the cases of heart complication in early life are rheumatic. In acute rheumatism in childhood only a minority of those affected escape endocarditis. British Collective Investigation Statistics give, in males, seventy-two per cent. of heart affections. At every visit to a case of rheumatism the physician should demonstrate the presence or absence of endocarditis. It is an early complication, coming always in the first week of the disease, rarely after the tenth day. It not unfrequently is the first manifestation of the process, the joint inflammation following it.

It is necessary to bear in mind the erratic clinical history of rheumatism in childhood. It is often unrecognized until the heart complication brings into bold relief the etiology of a day of growing pains, a fleeting joint stiffness, a febrile erythema or a tonsilitis. Until proven to the contrary, every case of joint pain and stiffness in infancy and childhood should be considered rheumatism. Too often an imaginary injury is made to account for the condition. An acute joint pain or stiffness, however trifling, whether in one joint or more, with a rise of temperature, is rheumatism with but rarely an exception.

The etiological relation between chorea and rheumatism explains the frequency of chorea with complicating endocarditis. Frequent heart examinations should always be made in cases of chorea.

Second in importance to rheumatism in the etiology of endocarditis in children is scarlatina. The heart complication is a late one, usually appearing in the stage of desquamation. Acute scarlatinal nephritis increases the liability to heart inflammation. A febrile temperature, a rapid pulse, precordial distress, or, in fact, any interruption in the convalescence from scarlatina should direct the physician's attention to the heart.

While not so frequently seen in diphtheria, measles, and other microbic diseases, endocarditis should always be in mind as a possible complication. With a full realization of its favorite antecedents and a watchful surveillance of the clinical progress, the physician will rarely overlook this dangerous complication.

The symptoms of the onset of endocardial mischief show the greatest variability in intensity. In fact, the condition is disclosed for the most part because it is expected and sought after, and not because of the presence of obtrusive symptoms. Developing during the activity of a rheumatic arthritis, it will frequently progress for several days without perceptibly changing the clinical history of the case, and even when the primary disease has passed, the conditions may not cause symptoms until myocardial debility and dilatation of the heart disturb the rhythm and force of its action.

This masked endocarditis is common in children, in whom the inflammation is so often insidious and subacute. Necessarily the condition will be recognized early in such cases only by the physician's care in physical examination.

When symptoms attend endocardial infection, those which are characteristic are, fever, precordial pain or distress, palpitation or disturbed rhythm, and dyspnea. Rarely, a sharp chill and high fever usher in the disease. Usually the febrile movement is of a mild, remittent type; but there is no rule. Every accession of fever or its reappearance after defervescence in any of the diseases disposed to endocardial complication demands heart auscultation.

Palpitation, rapid or slow heart, or any form of arhythmia is very significant. Precordial pain or distress always directs attention to the heart. Dyspnea comes with dilatation and, of course, would lead to physical examination. Unfortunately for accurate diagnosis physical examination does not always reveal endocardial mischief in its early stage. While usually, in the vicinity of the valves, the inflammation may, at first, be confined to the walls of the heart chambers. There it gives no sign of its presence.

The physical signs which appear are: Tumultuous action, feeble action, murmurs, and apex reduplication of the second sound. With the inflammation about the mitral orifice, its most frequent location, there is either systolic or presystolic apex murmur. When about the aortic orifice, either a systolic or diastolic basic murmur. Because of myocardial paresis the murmur is at first soft and blowing. Later, from various physical changes in the vegetations or in the heart wall, it may assume different characteristics.

It should be remembered that in children pericarditis is a very usual attendant upon the endocarditis of rheumatism. A confusion of physical signs may then be presented that time only will untangle. Reduplication of the second sound at the apex is a frequent physical sign in children. This is probably the result of a thickened and slowly working mitral valve. Then the diagnosis of endocarditis will depend upon the discovery of an endocardial murmur in connection with other evidence of an acute cardiac affection.

The treatment of acute endocarditis is directed to the primary pathological condition and to the relief of symptoms caused by the heart inflammation.

Except in rheumatism the cardiac incident should not interrupt the proper therapeutics of the primary disease. The preventive treatment of cardiac inflammation should be one of the essentials in the therapeutics of rheumatism. Every day of activity of the rheumatic poison that can be saved decreases the probability of heart complication.

The two measures most useful are the salicylates and rest. The control of the salicylates over rheumatism is specific and should be pushed to the full antidotal point at the beginning of the disease. They exert no control over the cardiac inflammation when it is once lighted up. Their action is preventive. Salicylate of sodium is a powerful cardiac depressant, and when a heart complication has developed it must be used with caution. Substitution of the alkalies with a less toxic salicylic compound is to be commended.

To a structure threatened with an infective inflammation, rest is a potent preventive. Cardiac rest can be only relative, but every beat that can be saved a threatened heart during the first week of an acute rheumatism helps it to resist the septic invasion.

Opium, phenacetin, or the other analgesics are our most efficient aids in securing quiet during the progress of the articular symptoms and should be used with a free hand.

When endocardial infection has taken place, the essential part of the treatment is rest—physical, mental, emotional rest—as absolute as it can be made.

Excitement of the heart's action usually attends the onset of endocardial infection. The delicate regulating mechanism of the heart adjusts its action to its needs, and this self-imposed turbulence of action should be interfered with only with caution and judgment.

Direct cardiac depressants and sedatives should be used with extreme circumspection. At this state digitalis is not indicated. Aconite is valuable, but must be given with care.

Cold compresses safely and pleasantly control tumultuous palpitation. Central sedatives, like Dover's powder and phenacetin, secure sleep, quiet pain, and give the heart rest.

The myocardial debility that soon appears may demand careful stimulation. For sudden failure, brandy, compound spirits of ether, and caffein, hypodermatically, act with promptness. Digitalis, in the long run, best holds up a flagging heart. The realization of the weakness of the inflamed myocardium and the dilated ventricles will insure caution in its administration.

Relapses are characteristic of the endocarditis of childhood. The necessity of prolonged rest, until the danger is past, and until compensatory hypertrophy succeeds the dilatation of the ventricles, cannot be too strongly emphasized. The consideration of the remote effects of endocarditis and their management do not form a part of this short paper. Attention on the part of the physician to a few simple and well established principles of cardiac therapeutics will save many a heart from the grave crippling effects of an endocarditis.

ST. JOHN'S GUILD.

By John P. Faure, Esq..

Secretary to St. John's Guild.

St. John's Guild was organized in 1866, and incorporated in 1877. Its object is to afford relief to the sick children of the poor of the city of New York without regard to creed, color, or nationality. It supports a children's city hospital, a floating hospital, a seaside hospital, and a corps of nurses for special relief to sick children at their homes.

The work brings relief to many thousands, and deserves the co-operation of every friend of the sick children of the poor.

The Floating Hospital.—In July, 1875, the first trip of the "Floating Hospital of St. John's Guild" was made, carrying 1,000 or more sick babies, small, feeble children, and worn and exhausted mothers, thereby inaugurating what has since developed into one of New York's most unique charities, because of the rigidity with which its managers have adhered to their original purpose, i.e., the care and cure of the baby and child suffering from summer ailments, for which the ozone of the salt air is Nature's great remedy. Side by side with this labor with the sick infant, the instruction and uplifting of the too often ignorant mother has been attempted. Both efforts have great and rightful claims in spreading a knowledge of, and stimulating a love for, *better living by the plain people*, for which so much benevolent work has stood during the past few decades. There is no more promising or fruitful agency through which we may hope to meet, and successfully wrestle with, many of the social problems of to-day.

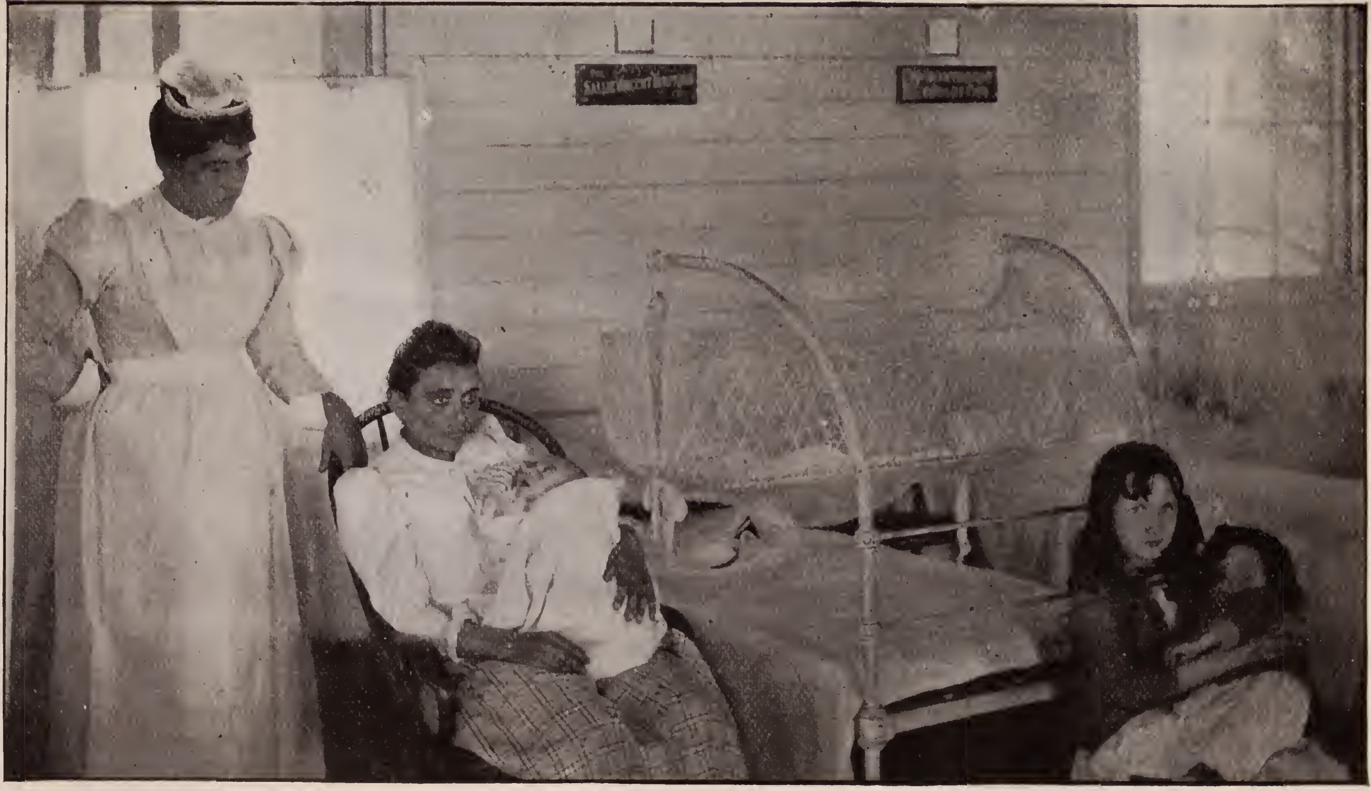
Sea-Side Hospital of St. John's Guild.

During the summer months six trips a week are made on the Floating Hospital, and about fifty thousand women and children are given the benefit of a sea trip every season, thus greatly reducing the infant mortality on those hot days. Nearly ten thousand salt-water baths are given, and much good is done by training the children and mothers in a knowledge of what a bath means and how to give it. Besides the bath, special features of the Floating Hospital are hospital treatment in the sick wards, the serving of a substantial mid-day meal, the instruction by trained nurses of both mothers and children in sanitation and the positive instruction in cleanliness and a knowledge of better living.

The railroad journey that must be taken to reach one of the homes thrown open by the operations of the Fresh Air Charity naturally prevents it from being of much practical benefit to the sick infant or child under six, and to the mother, from whose personal care neither can be taken; and it is in its ministrations to this most helpless group of the human family that St. John's Guild finds its great place among the charities of New York.

The Special Summer Corps of Physicians of the Health Department, dispensaries, out-patient departments of great hospitals, day nurseries and charitable societies in great numbers gladly avail themselves of the opportunity to distribute the tickets for the Floating Hospital that starts on three mornings of the week from each side of the city. Each ticket admits a sick baby, in mother's arms, and any little brothers or sisters, under six, who cannot be left alone. Doctors and trained nurses attend the very sick in the wards, while those partially ailing are seated on the spacious upper deck, where, hour after hour, as both upper and lower bays of New York's harbor are traversed, the ozone of 3,000 miles of the Atlantic Ocean is inhaled, to save the infant lives as no medicine can, and to strengthen and rebuild the other feeble members of the family.

Thirteen miles from the Battery the Floating Hospital is daily anchored, and those whose condition demands, and who can arrange to leave home, are taken to the Guild's Seaside Hospital for children, at Cedar Grove, New Dorp, S. I., for care and treatment until cured, the average stay being about ten days. Here again physicians, trained nurses and all hospital surroundings are provided.



Ward at Sea-Side Hospital.

At the Sea-Side Hospital.

Eight years ago a salt-water bathroom was instituted on the Floating Hospital. Individual spray baths of pure water, pumped from the ocean, are given to thirty-three children and mothers at one time. The vast opportunities thus afforded are availed of by trained nurses and skilled attendants, not only to demonstrate both to mothers and children the personal comforts of the bath, but also to convey lessons in elementary sanitation to the benefit of those present, and through them and their surroundings to instil a desire, which has often grown to a demand, for added bathing opportunities and sanitary conditions at home. Thus has this Floating Hospital played a not unimportant part in the demand for a better housing of the poor, that is rapidly and loudly voicing itself at present. Surely when we commend what the country home does for the children of seven and over, who would receive no vacation were it not for the Tribune Fresh Air Fund, we cannot withhold expressions of gratitude over the provisions for the sick baby, feeble child and weary mother that are shown to exist by the operations of the Floating and Seaside Hospitals of St. John's Guild.

THE SEA-SIDE HOSPITAL is situated on Staten Island, twelve miles from New York, and was opened in 1881. It is the summer hospital of the Guild and is intended for children under six years of age. It is well adapted for this purpose on account of its location on the water. Although the season is very short—about ten weeks—over 13,000 days of hospital care are given in that time.

The bed used by the small children in this hospital was devised by Dr. William Thurman, and is well worthy of attention. As shown in the illustration it is suspended over the mothers' bed, and consists of a wire frame with a canvas bottom. Its advantages are coolness, cleanliness and convenience to the mother in attending to the child's wants.

THE CHILDRENS' CITY HOSPITAL is located at 155 and 157 West Sixty-first street, and accommodates nearly fifty patients. The work is increasing rapidly, and although the hospital was opened only a few years ago, it has already outgrown its present quarters. There is urgent need for a larger place, and especially for one in which the more modern improvements in hospital construction and arrangement can be found.

INTUBATION FOR DIPHTHERIA.*

By J. Morrison Ray, M.D.

Clinical Professor of Ophthalmology, Otology, and Laryngology in the University of Louisville.

THE specimen which I present for your examination is a cast of the larynx and trachea three and one-half inches in length, which was removed from a patient in Central Kentucky two weeks ago.

I was telegraphed one afternoon to come at once, prepared to do an intubation. Upon arrival I found the patient, a child about six years of age, with all the evidences of laryngeal obstruction, with a false membrane on the tonsil and some patches on the back wall of the pharynx. The child was more or less asphyxiated, and I lost no time in introducing an intubation tube. When I pushed the tube down into the larynx the child became very much asphyxiated, and for a moment or two did not breathe at all, though I felt confident that the tube was in the larynx. The child made a vigorous effort at coughing, forced the tube out, threw its head forward and spit out this membrane, which, in the fresh state, was a complete cast of the larynx. The upper end was somewhat dilated, looking very much like the large end of a trumpet. Upon examination I could see in one place where there was a rent in the membrane; in introducing the intubation tube it had penetrated the membrane at this point. After the child had spit up this membrane there was immediate relief. The next morning the child was breathing naturally, without a tube and without evidence of fresh formation of membrane.

About 1 o'clock of the day after my visit I received another telegram to come back, as the child's throat was again obstructed. I went and found the child almost in the same condition that it was the previous night. I introduced the tube again, with very decided relief. About one-half hour after introduction of the tube the child had a paroxysm of coughing, forced the tube out, and along with it a second cast of the larynx almost identical with the one that I show you, yet not so thick. With the history of the previous night before me I waited, and, notwithstanding that the child was breathing easily, I introduced the tube again, fearing there would be a reformation of the membrane. After this re-introduction of the tube the child retained it in the larynx for three days, when, in a paroxysm of coughing, the tube was forced out and the child went on to a good recovery. Upon bacteriological examination abundant evidence of the Klebs-Loeffler bacilli was discovered. Since then the patient has shown evidence of paralysis of the soft palate, so I do not think there is any doubt concerning the nature of the disease. The interesting point about it is the rapidity with which the membrane formed, and the extent of it. It measured at the time three and one half inches in length, and before being handled was a complete membranous cast of the larynx and upper part of the trachea. I have since performed an intubation upon a second child in the same family with recovery.

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* Report of the Louisville Surgical Society.

DISCUSSION.

Dr. Jas. S. Chenoweth: I saw a case of malignant diphtheria two years ago of interest in this connection. Dr. Evans had performed an intubation upon a child in the same house two days before, the child dying a few hours afterward. Another child in the same family had died from sepsis. The patient under my care was a girl eleven years of age. I saw her on the seventh day of her diphtheria Just before I reached the house she had coughed out a cast of membrane, and immediate relief was obtained. This was on the seventh day of her illness, and when I arrived she was breathing perfectly freely, her temperature was about normal, and she seemed to be in good condition in every way. I left feeling that possibly the membrane would not re-form at this stage of the disease, and she would soon recover. Within twenty-four hours I was telegraphed to come at once and be prepared to perform a tracheotomy. I went as promptly as possible, reaching the house at eleven o'clock at night, it then being thirty hours after the membrane had been coughed out. The child grew worse so rapidly that the family doctor opened the trachea just before my arrival. The operation was skillfully done but the child was practically moribund and died soon afterwards.

Dr. Wm. Cheatham: The case reported by Dr. Ray is one of considerable interest; I had a similar case some time ago, when I first began to intubate for diphtheria. The child coughed up quite a large cast, and like the first instance mentioned by Dr. Ray, I did not re-introduce the tube. The membrane re-formed within twenty-four hours and the child died. In such a case the tube should be re-inserted immediately.

IMPERFORATE RECTUM, AND CONGENITAL DEFORMITY OF THE URETER WITH HYDRONEPHROSIS.

By Grace E. White, M.D.,

Late Resident Physician to the Children's City Hospital of St. John's Guild.

FREDERICK KALLENBERG was born in March, 1896. Seven children in the family had died in early infancy, but no history of particular taint could be elicited.

When a day and a half old he was operated upon for imperforate rectum. A cicatrical stricture followed, which the mother kept open by daily stretching with the finger. On May 16, 1896, the baby was admitted to the Children's City Hospital. About a week previously the cicatrical ring had seemed to become very tight, so that the mother could not insert her finger, and the child had not had a dejection for a week.

The baby seemed to be well nourished, though it had a rather white and pasty skin. The abdomen was full and prominent, and the superficial abdominal veins were large.

Rectal examination showed, about half an inch above the anal opening, a firm, fibrous ring, extending around the entire circumference of the bowel. Under slight pressure it would yield sufficiently to admit the tip of the little finger. The bowels were freely opened by means of castor oil and rectal injections.

The baby was in the hospital until June 29, 1896. During this time daily stretching of the stricture was done by means of the finger and the bowels were kept open by means of rectal injections. The contracture yielded sufficiently to admit an instrument one-half inch in diameter. The dejections were large and soft, with offensive odor and always frothy and bright yellow. The abdomen was frequently distended and tympanitic. On June 5 the child had a rather severe attack of broncho-pneumonia, from which it seemed to be recovering; but on June 20, diarrhea, with some nervous symptoms, appeared, and the baby rapidly failed. He died on June 29, in convulsions.

Autopsy.—One-half of the lower lobe of the left lung showed extensive broncho-pneumonia. The veins of the colon were much injected. A firm growth of fibrous tissue was found at the extreme lower end of the rectum, forming a thick and firm ring. About six inches of the lower part of the colon was dilated to about twice its normal diameter. The mesenteric glands were enlarged.

Left Kidney.—The pelvis was much dilated. The ureter was constricted at its middle part by a band of adhesions encircling it, and was dilated above and below this stricture. The calices were much dilated and filled with fluid, and the pyramids were greatly atrophied from pressure.

Right Kidney.—The ureter was dilated to one-half an inch in diameter. The kidney substance was atrophied so that it was practically a hollow organ filled with fluid. No orifice from the right ureter into the bladder was found, but a branch ran from the main duct about half an inch from its lower end behind the bladder to communicate with the left ureter, and they apparently entered the bladder by a common duct.

During life a normal amount of urine was passed and there were no symptoms to draw attention to the kidneys.

* * *

PRACTICAL NOTES.

Parrots.—E. Braatz cautions against the intimate intercourse of children (also adults) with parrots. Nearly one-third of the parrots treated in the Berliner Thierklinik were affected with tuberculosis. Infection is therefore possible!

Dermoid Cyst of the Ovary.—Dandois describes a dermoid cyst of the ovary in a child seven years of age. A very voluminous tumor was found in the abdomen. On opening the latter, from the xiphoid cartilage to within a few ccm. above the pubis, the tumor was readily removed in one piece. It proved to be a cyst of the ovary, weighing 7 kg (equal to one quarter the bodily weight), which on incision presented irregular areas of cavities with colloid contents, and others, which were filled with hairs and tallow like material, as well as bony portions without any regular arrangement, which amounted to one-third of the weight of the whole tumor. Although tuberculous granulations were found on the peritoneum and the epiploe. The child was returned to its parents after eight days, and was dismissed as cured after two months.

Whooping-Cough.—Marfan has treated forty cases of whooping-cough in two years with bromoform. He prefers it to antipyrin and belladonna, and gives it in the following emulsion:

℞	Bromoform	48 gtt;
	Ol. amygd. dulc.	20.0;
	Gum tragac.	2.0;
	Gum Arab	4.0;
	Aq. laurocer.	4.0;
	Aq. destill. ad.	120.0.

Mix. Ft. Solutis. Sig.—A teaspoonful contains two drops of bromoform. Children under six months are given two to three drops daily to begin with, from six months to one year three to four drops, divided in three doses.

In the first few days after taking the medicine the disease seemingly becomes worse, but after three to four days a marked reduction in the number and intensity of the paroxysms is seen, vomiting ceases and the appetite returns. The best results can be obtained from bromoform if used at the very outset of the disease; there remain, however, a few cases in which it seemed useless (among the forty cases there were four). In these antipyrin was effective.

Prolapse of the Urethra in a six-year-old girl was seen by Broca. Through the mother it was learned that the child had a slight but continuous hemorrhage from the vagina for three days. At the urethral orifice an intensely red mass of mucous membrane, of the size of a hazelnut, was seen, caused by a ring-like prolapse of the urethral mucous membrane, from which the blood slowly oozed. After painting this mass with a solution of nitrate of silver 1 to 50, for three days, the bleeding stopped and the mass disappeared.

In Chronic Pharyngitis Fouceray recommends painting the throat with solution of menthol (1 part to 10 of Ol. amygd. dulc.), the brush is first introduced into the nasal cavities, and the patient asked to inhale deeply, and then the pharynx is to be thoroughly painted.

Serum-Exanthems in Diphtheria.—Hartung distinguishes the following serum exanthems in diphtheria:—

(1) Serum urticaria.
(2) The diffuse serum exanthems.
(3) The scarlatinal-like rashes.
(4) The macular serum exanthems (similar to measles and rotheln).
(5) Polymorphous serum exanthems.
  (*a*) The polymorphous serum erythemas.
  (*b*) The polymorphous exudative serum erythemas (running a course like erythema exudativa multiforme Hebra).

Neck Ribs.—The so-called neck ribs, whose existence in the human subject has lately been discovered, and whose importance as to the military fitness of the possessor is just now being discussed, are produced by the unusual growth of the transverse processes of the seventh cervical vertebra. Their presence is easily determined by an examination of the supraclavicular depressions. Frequently they do not occasion the slightest discomfort during the whole of life, but it may, however, happen that severe neuralgias are produced by pressure on the nerves, or that the formation of bony growths give rise to tumors, etc.—*Der Kinderarzt, 1896, vii, 8.*

Foreign Bodies in the Throat.—The difficulty of removing fish bones and similar obstructions impacted at the lower end of esophagus is well known, and various mechanical measures and appliances have been invented to deal with the difficulty. One of the most simple, however, and, as reported, one of the most effectual, is to administer to the patient a pint of milk, and forty minutes afterward an emetic of sulphate of zinc. The fluid easily passes the obstruction, and is, of course, rapidly coagulated in the stomach into a more or less solid mass, which, on being ejected, forces the obstruction before it and so effects its removal.—*Am. Druggist.*

Pilocarpine in Whooping-Cough.—D. J. Bell (*Med. Council*) recommends the following for a child seven months old:

℞ Pilocarpin. nitratis . . . . gr. ⅜;
Aquae . . . . ʒ iss.

Mix. Sig.—Two drops in a teaspoonful of water every six (6) hours. Discontinue as soon as the paroxysms are relieved.

When there was much fever he gave the following:

℞ Phenacetin . . . . gr. i;
Glycerin . . . . ʒ ss.

Mix. Sig.—One dose.

Boric Acid in Milk.—E. H. Farrington finds that the presence of boric acid in milk increases the acidity of that fluid in a curious manner. The same amount of boric acid increased the acidity of a given sample of milk four times as much as it did the acidity of water. No explanation of this fact is offered by the author, but he points out that a simple means is thus afforded of detecting boric acid in milk. The acidity of the prepared milk examined represented 0.36 per cent. of lactic acid, and it is considered that milk which apparently contains over three-tenths per cent. of lactic acid, and yet neither tastes nor smells sour, may safely be regarded as adulterated with some preservative, probably boric acid.—*Journ. Am. Chem. Soc., xviii, 847.—Pharm. J.*

Editorial.

THE CHEMICAL DIAGNOSIS OF TYPHOID FEVER.

REAL progress in the treatment of disease is commensurate with advance made in the understanding of its etiology. The former follows the latter; it rarely if ever precedes it, except by accident. The truth of this is sufficiently illustrated by the therapeutic attitude of the present day toward diphtheria; efficacious therapy followed close on the discovery of the real causation of the disease.

That the entire benefit of scientific treatment may be obtained it is necessary that it be applied early, and this can be done only when early diagnosis is possible. The rational application of therapeutics to-day, therefore, is based on a knowledge of the causation of a given disease, and on its prompt recognition. The latter is quite as important as the former. The second half of the Nineteenth Century has witnessed the inestimable aid which bacteriology has contributed in revealing the etiology of disease, and we are now apparently on the threshold of receiving substantial diagnostic aid from physiological chemistry. We are prompted to these remarks by a perusal of the investigations of Widau, of Pfeiffer and of Johnston, on a method of diagnosing typhoid fever which is based upon the action of the serum from a typhoid fever patient upon recent bouillon cultures of the typhoid bacillus. These investigators have shown that the cultures of the typhoid bacillus have the power of arresting the active movement of specific organisms of typhoid fever, and of producing peculiar and characteristic clumping of the bacilli. To make the test, a small quantity of blood is drawn from the perfectly clean finger tip into a small glass vessel and allowed to coagulate. The serum from this clot is then mixed with a recent bouillon culture of the typhoid bacilli, in the proportion of one part of the former to ten of the latter. In a very short time the bacilli gather themselves into clumps which are often sufficiently distinct to be seen by the unaided eye, and which are seen with the greatest readiness with the microscope. The clumping becomes more striking after the lapse of a few hours. This chemico-physical reaction does not occur with other organisms than the bacillus of typhoid fever, and more important still, it does not occur when cultures of the typhoid bacillus are mixed with serum obtained from a patient suffering from other diseases. It will be seen at once, that if the claims and statements of those who have given this method serious and extensive test be true, and there is no reason to doubt that they are, the value that this method will have not alone in the early detection of typhoid fever, but in the exclusion of the cases that so closely simulate atypical forms of typhoid fever that the presence of the latter cannot be positively excluded cannot be overestimated. We are glad to see that the Health Department of New York city, ever on the alert to employ methods that will contribute to the health of the populace and the efficiency of its own workings, has taken steps to put the claims of these investigators to a thorough trial. No one who is familiar with the history of the antitoxin treatment of diphtheria in this country will doubt that the trial will be fairly and conclusively made. Circulars of information regarding the method employed, and slides for the collection of blood may now be obtained at the various drug shops where diphtheria cultures are kept. The Health Board undertakes to examine the slides on the day following their return by the physician to the druggists, and to have a report in the hands of the physician from whom the specimen was obtained within 24 hours. The immense satisfaction of a positive diagnosis to the physician, and the important bearing that it may have on the welfare of the patient, particularly if the case be atypical, ambulatory, or obscure is apparent.

The test is one that requires no special technic, and can easily be made by any physician. Precaution must be taken that the bouillon culture is a moderately fresh one, not older than two days. It has been found, however, by Widau, and by Johnston, that the reaction occurs as well and as characteristically with specimens of dried blood as with fresh blood. This fact allows the physician time to make the test at his leisure several hours after he has seen the patient, and of the employment of the test, as the Director of the Board of Health, Dr. Biggs, has pointed out, in municipal laboratories.

Although the bulk of confirmatory evidence must come from physicians to whom laboratories, with their fresh cultures are easily accessible, and from municipal laboratories, it is well for the physician of rural and suburban districts to bear in mind that examinations can be made from dried blood which they may forward to such laboratories.

Society Report.

BRITISH MEDICAL ASSOCIATION.

The Importance of an Early Diagnosis and Treatment of Nasal Obstruction in Children.—In a paper read at the last meeting of the British Medical Association, Dr. Adolph Bronner urged the necessity of treating nasal catarrh and post-nasal growths as early as possible, owing to the evil effects produced on the general health and development, and on the neighboring parts and organs. Of the evil effects he instanced, arrested development of the lungs and chest, open mouth and stupid expression, irritableness, restlessness, night screaming, enuresis, physical and intellectual torpidity, thick speech, tendency to stammering and stuttering, liability to local and general infections owing to the cutting off of the bactericidal function of the nose, enlarged cervical glands, inability to suck for long together, imperfect oxidation of the blood and impaired nutrition. Of the local effects, extension and relaxation of the face and jaw muscles, dryness and inflammation of the gums often leading to malformation and disease of the teeth, high and pointed palate, displacement of the front teeth, bending of the nasal septum, swelling of the nasal mucous membrane with polypoid degeneration, irritation and inflammation of the throat and bronchi, asthma, catarrh of the naso-pharynx, pharynx, larynx and bronchi, diseased tonsils, deafness in one-third of the cases of post-nasal growths, recurrent attacks of pain in and discharge from the ears.

What are the Elements of Success and Failure in Tracheotomy in Children?—Dr. Hector Cameron dealt with this question confining himself to cases of asphyxia in diphtheria. He advocated the operation directly respiratory difficulty occurred with marked retraction of the chest-wall during inspiration, and more or less voicelessness and croupy ringing cough. The prognosis is better if the operation is indicated towards the end rather than at the beginning of the disease, for in the former cases convalescence has already commenced, while in the latter there is still a sharp struggle with the disease in front of the patients, although hopes are held out by the serum treatment that these latter cases may prove as successful as the former, owing to the early separation of the false membrane and to the hastening of convalescence produced under it. As regards the complication and difficulties of the operation and its after treatment, he said that hemorrhage and its mishaps could be guarded against by making the first incision, which should reach from the cricoid cartilage almost to the interclavicular notch, scrupulously in the middle line, and making no attempt to open the trachea until its rings were visible or felt with the forefinger of the left hand to be quite exposed or bare. Be careful, especially in the low operation, to make the deep dissection correspond as much as possible with the center of the original wound. Secondary hemorrhage, due to ulceration into the innominate vein or artery at the point where the end of the tube presses against the tracheal wall, is not due to the unusual degree of pressure of an ill-fitting tube, but to the general condition of the patient, the pressure being only a secondary cause. Emphysema may prove troublesome and is to be avoided by incising the trachea exactly in the middle line. He thinks the use of the hook is most frequently accountable for its occurrence. Pneumothorax, a rare complication, results from the air extending from the wound under the cervical fascia, filling the mediastinal connective tissue and bursting into the pleural cavity. In connection with this, Cameron quotes Angel Money, who, among twenty-eight postmortems made carefully under water, found sixteen cases of mediastinal emphysema, in two of which pneumothorax was also present. In cases where the tube has been introduced and breathing is found to be entirely obstructed, one of two things has happened: either the tube has been pushed between the tracheal wound and the membranous cast, which has not been incised, or the membrane has been stripped off by the tube, pushed down and rolled up forming a complete plug. A pair of forceps will usually seize and remove this plug. As a result of too freely opening up the cellular intervals in the neck, especially at the lower part, prolapse of the thymus may occur during the operation, and later, cervical cellulitis and edema with septicemia, and extension of the membranous exudation to the wound. The escape from the wound of fluids, which are swallowed, is due, he thinks, to the fact that when breathing has gone on for some time through an artificial opening, the larynx has lost, for the time being, its sensitiveness and alertness. This complication may be overcome by feeding the child on solid or semi-solid food.

Papillomata of the Larynx in Children.—In a paper read before the association, Hunter Mackenzie discussed the line of treatment to be followed under two heads: (*i*) Should a radical operation, that is, an operation for the direct and immediate removal of the growths be performed; or, (*ii*) should it be an operation merely for the relief of the breathing? In considering the first, he thought thyrotomy was distinctly contraindicated on account of the immediate risks to the child, the marked tendency to recurrence, and also the vocal defects and the stenosis which may ensue. As regards endolaryngeal removal, experience showed that recurrence usually takes place. Under the second head he discussed the value of intubation and tracheotomy; the former he thought ineffective and occasionally disastrous, as in a case of Lennox Browne's in which hemorrhage was produced by the attempt. The latter is the treatment he recommends, not only as a palliative but as a curative measure, the larynx being put at rest and freed from the irritation incidental to coughing and excessive phonation, the papillomata tend to slowly atrophy and separate. He related cases of cure, occurring in his own practice, in which the cannula had been worn for one year, six months and seven months, the extreme periods reported by Garel and J. Solis Cohen being one month and thirteen years.

LARYNGOLOGICAL SOCIETY OF LONDON.

Foreign Bodies in the Nose in Children.—In the course of a paper read before the Laryngological Society of London, on "Foreign Bodies in the Upper Air and Food Passages," Charters J. Symonds dealt with foreign bodies in the nose in young children. In cases in which a foreign body has been present for some time, the most characteristic symptom is a unilateral purulent discharge often blood-stained and brown, but with no particularly unpleasant odor. Examination, which should be done under an anesthetic, unless the child be particularly good, may reveal nothing but swollen mucous membrane and granulations, the foreign body being embedded and concealed, necessitating careful examination with a probe. If the body is seen, it appears black, either from its own color or from a covering of dried blood. Diagnosis must be made from ozena, in which the turbinal wasting, crust formation and smell are characteristic, and from tubercular and syphilitic ulcerations, in which the ulceration is deep or extensive and often invading the septum. A case was related in which a true rhinolith was removed from a boy of eleven, into whose nose some rose leaves had been introduced at the age of three, a discharge having existed since. Removal can be effected by means of a bent probe or by forceps. If in the attempt to remove an impacted foreign body it be pushed backwards, the finger should be introduced into the naso-pharynx to prevent entry into the larynx. Syringing the healthy side by means of a Higginson's syringe has been found to be successful without an anesthetic.

THE LOUISVILLE CLINICAL SOCIETY.

Foreign Bodies in the Intestinal Tract.—Dr. W. O. Roberts reported the case of a child, aged nine years, who swallowed a tin whistle. It was an ordinary tin whistle used by children, being about three inches in circumference and not quite one inch in diameter. It had lodged in his esophagus and was orced down into the stomach by swallowing.

An expectant plan of treatment was advised, and the stools ere carefully watched. He complained of more or less uneasi- ss about different parts of the abdomen. The whistle was in t bowels, for eight days, when it was passed per rectum. It is bout as large as the largest Murphy button, but passed thr gh the bowels of this boy, who is but nine years of age, witl ut giving him any discomfort worthy of mention.

DISCUSSION.

T. P. Satterwhite: I think it is exceedingly important where reign bodies have been swallowed, that the patients or parent e cautioned against giving purgatives; this is usually their fir thought, and will often be carried out if not prevented by the nding physician. The diet should consist of such articles a ill increase the bulk of fecal matter so that the foreign body ay be promptly carried through the intestinal tract.

Dr. J . Irwin: Three weeks ago I was consulted with reference to little boy, nine years of age, who had swallowed a brass ball as large as the end of my thumb. It was passed per rectum in seventy-two hours.

Dr. Carl Weidner: The most important thing to do where there is a sharp foreign body in the intestines is to give such a diet as will cause the fecal matter to remain in a semi-solid state. The next of importance is to allow the patient to eat those things which will increase the quantity of fecal matter. While the natural condition of fecal matter, as we know, in the small intestine is liquid, it may be made more or less semi-solid by feeding the patient largely on vegetables, especially potatoes. Children are prone to swallow foreign bodies of all kinds, particularly small articles such as screws, pins, etc. I recently saw a child, six years of age, who had swallowed a steel screw about one and one-fourth inches in length. The child was kept on a diet consisting mostly of potatoes for two days, when the foreign body was expelled without any trouble. In most cases where small foreign bodies are swallowed, no inconvenience is experienced, still occasionally serious trouble results, not only on account of the obstruction produced, but because of the shape of the foreign body, its size, etc. Some time ago a patient came under my care complaining of much pain about the rectum, and upon examination I found an impacted rabbit bone about one inch in length, shaped very much like a fish-hook lying crosswise of the bowel.

Dr. P. Guntermann: A little girl while eating peaches swallowed one of the stones, but it was passed with the fecal evacuations within three days. I remember years ago it was the custom, if a person swallowed a foreign body of any kind, to give the patient rye-meal-mush as a diet. This meal makes a very heavy thick mush and very largely increases the quantity of fecal matter.

Dr. P. F. Barbour: Almost everything that can be gotten into a child's mouth has been swallowed at one time or another. Straws, hairs, bristles from brushes, coins, have all been passed from the alimentary canal. One of the most dangerous foreign bodies is the open safety pin, and I have seen them in autopsies in various parts of the intestine. I saw a child with an ischio-rectal abscess recently the result of irritation from a safety pin which had lodged above the anus. Ordinarily the proper treatment for a foreign body is mush or potatoes, but in the case of safety pins the child's best hope is dependent upon good luck.

Dr. W. C. Dugan: The subject of foreign bodies in the alimentary tract is one of considerable interest. I remember a woman in an asylum who swallowed a large spoon, six or eight large screws, I have forgotten how many nails, a great deal of straw, and about a yard and a half of rubber sheeting. The spoon had remained in the canal so long that the intestinal juices had corroded the handle so that it represented a sharp point. In passing from the small to the large bowel, this sharp end penetrated the intestinal wall and lodged in the promontory of the sacrum. She died of peritonitis and autopsy revealed the condition I have mentioned.

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Notes on Treatment.

CONSTIPATION IN INFANCY.

CONSTIPATION may have many causes. When due to deficient or too viscid intestinal mucus, correct the cause—usually a febrile condition, or a chronic intestinal catarrh—and give the infant a large quantity of water to drink.

In rickets, chronic, peritonitis, intestinal atrophy and hydrocephalus, the constipation may be due to incomplete peristalsis; and in tumors, intussusception, volvulus, undue length of the descending colon, and imperforation, it may be due to mechanical obstruction.

An apparent constipation may result from insufficient amount of nutriment. This is easily corrected, as well as the constipation due to a superabundance of starch or of casein, or to a lack of sugar in the food.

In infants oat meal should be substituted for other starchy food. A lack of sugar can be corrected by giving, previously to every feeding or nursing, some tepid water or oat meal water, in which a piece of loaf-sugar has been dissolved. Older children will take honey to advantage. Regular doses of cod-liver oil, given two or three times daily, will obviate or relieve constipation besides fulfilling other indications.

Rectal injections, friction and kneading of the abdomen, and electricity are often useful. Calcined magnesia (five to ten grains a day), either alone or combined with rhubarb, is indicated when there is an excess of acid in the gastric and intestinal contents. Nux vomica, to which may be added some purgative extract, is indicated in insufficient muscular action of the intestine. As an occasional purgative, for the purpose of relieving the intestinal tract of indigestible and injurious masses, castor oil is probably the best and mildest. Calomel or compound licorice powder, or the fluid extract of rhamnus frangula are valuable for this purpose.—A. JACOBI.

Constipation can usually be cured by strict attention to the diet by the use of fruits, vegetables and cereals. In young infants an increase of the fat in the milk will in quite a number of cases relieve it. Variation in the percentage of sugar is occasionally found to be efficient. Many drugs have been employed in the treatment of constipation, but as a rule they are very apt to be only temporary in their action. In connection with the diet, place most reliance upon enemata and laxative suppositories, such as those made of glycerine or of gluten.—T. M. ROTCH.

In constipation of early infancy, senna (compound licorice powder) seems less likely to lose its effect than the other cathartics. Podophyllin may also be good for infants, but it is very difficult to administer. Magnesia is of use for neutralizing acidity, but it cannot be repeated often in large doses.

For a saline cathartic, phosphate of soda is most reliable. Belladonna, nux vomica, and calabar bean ought to be useful. The value of tonics ought not to be overlooked. Oil (olive or cod-liver) occupies a place between food and drugs. A small quantity may be made (especially the olive oil) an integral part of each meal, having been emulsified with lime water or some other alkali.—CHARLES S. PUTNAM.

℞	Extract of belladonna,	gr. 1-24,
	Aloes,	gr. i;
	Cocoa butter,	gr. x;

Mix. Ft. suppos. tales. No. i. (1)

Sig.—Use one suppository, at first twice a day, after a week only at night, and finally every other day.—LOUIS STARR.

The regular action of the bowels is at all ages so much a matter of habit that the child should be trained to regularity in this important particular. If the child is eight or ten months old, the first meal in the day may consist of a teaspoonful of fine oatmeal rubbed up carefully with cold milk into a thin, smooth paste, and then stirred briskly while hot milk is added.

If the constipation is only temporary and occasional, a small lump of manna dissolved in a dessert-spoonful of warm water, strained and added to the bottle of food, has a ready aperient effect; or, fifteen to twenty drops of the liquid extract of rhamnus frangula will be equally successful.

In cases where the constipation is habitual, the following is of unfailing usefulness:

℞	Tinct. nucis vomicæ,	♏ ss;
	Tinct. belladonnæ,	♏ v;
	Infusi sennæ,	♏ xx;
	Infusi gent. comp.,	ad ʒ i.

Mix. Ft. haustus.

Sig.—For a child between eight and twelve months of age. At first give this quantity three times a day immediately before a meal.

A teaspoonful of the extract of malt two or three times a day is useful. Pepsin is also useful, and, in obstinate cases, Dr. Merriman advises friction over the abdomen with a liniment composed of half an ounce of the tincture of aloes to one ounce of the compound soap liniment.

In cases where the scanty stools consist of hard, dry lumps, a nightly dose of Hunyadi Janos water (one to two ounces) will quickly produce a complete change in the character of the evacuations, and promote a daily action of the bowels.—EUSTACE SMITH.

℞	Sodii phosphatis,	gr. xxiv;
	Syr. mannæ,	℥ iiss;
	Aquæ anisi,	ad ℥ iii.

M. Sig.—One teaspoonful three times daily, for a child under one year old.

When there is an interference with the hepatic functions, the following is an excellent prescription:

℞	Resinæ podophylli,	gr. i;
	Alcohol,	ʒ iss;
	Syr. rubi idæi,	ad ℥ iii.

M. Sig.—A teaspoonful to a dessert-spoonful every morning, according to the obstinacy of the constipation.

When a copious evacuation is desirable the following is recommended:

℞	Tinct. nucis vomicæ,	♏ xii;
	Tinct. belladonnæ,	♏ xxiv;
	Inf. sennæ,	℥ i;
	Inf. calumbæ,	ad ℥ iii.

M. Sig.—One teaspoonful for a dose.—J. H. FRUITNIGHT.

Extra. rhamni frangulæ fl.,	℥ i;
Aquæ menth. pip.,	℥ i.

M. Sig.—One teaspoonful to a child two years of age.—A. A. SMITH.

℞	Olei morrhuæ,	℥ ii;
	Liquor calcis,	
	Syr. calcii lactophosphatis,	aa ℥ i.

M. Sig.—One-quarter to one teaspoonful three times daily, according to the age of the child.—J. LEWIS SMITH.

A useful form of enema to give patients of constipated habits in order to cleanse the lower bowel of masses of hardened feces:

Castile soapsuds,	1 quart
Spirit of turpentine,	½ fluidounce
Castor oil,	1 fluidounce

In order to make an emulsion the yolk of one egg should be mixed with the above. The enema should be given from a fountain syringe, a rectal tube being preferred to the ordinary nozzle. This injection may be repeated until the bowel is well cleansed.—E. P. DAVIS.

Abstracts.

TYPHOID FEVER IN BABIES.

J. Madison Taylor (*Phila. Polyclinic, 1896, v. 286*) reports the following from the practice of Dr. T. J. Henry, of Apollo, Pa.:

In the early part of 1891 an epidemic of typhoid fever broke out in a little settlement on a hill across the river from Apollo, Pa. The locality being very high, Dr. Henry naturally sought for a cause; this, in brief, was as follows:

A case of typhoid arose in a farmhouse above the settlement. No disinfection was practised; there was an overflowing outdoor closet with drainage to a swamp a few rods below. The swamp fed a spring which supplied the infected families with drinking water.

There were fourteen cases in all; two had hemorrhages from the bowels, and one suppurative parotiditis.

The case in question occurred in Mr. B's family. Mrs. B. had taken her bed June 14, 1891; sick twenty-one days. Mr. B. took to bed March 24th; sick thirty-two days.

On May 10th, Dr. Henry called to see the child, a male, then just eight months and sixteen days old. He found it with a coated tongue, tense abdomen, and fetid diarrhea. The temperature ranged from 102° to 104° F. The stools were typical, and he expressed the opinion that the baby had typhoid fever symptoms; but as he had never seen a case in so young a child was reserved as to the diagnosis.

About the sixth or seventh day, a crop of rose spots appeared over the abdomen, and one or two on the thorax. The spots were well marked and perfectly settled all doubts as to the character of the disease. The patient was convalescent in fifteen days, having been sick a week or more before Dr. Henry was called. The fact that the child had been fed on milk mixed with the unboiled water from the spring, will account for the typical character of the disease in so young a child.

In September, 1895, Dr. Henry attended child a five months and eleven days old, which he was positive had typhoid fever, although no rose spots appeared. The child's mother had just died with the fever, and an aunt and a brother had disease in the same house.

INFANTILE SCORBUTUS.

H. M. McClanahan (*Med. Rec. 1896, l, 477*) reports the following case : The patient was a male infant. During the first four weeks of life it nursed at its mother's breast, but the supply of milk failing, it was put on a diet of modified cow's milk. On June 7, 1895, when six months old, it was taken with acute entero-colitis, recovering in a few days. July 17th it had the second attack. During this period it was still on modified cow's milk, but on the latter date was placed on an exclusive diet of a dry, patent food. There was no further diarrhea, but, on the contrary, marked constipation. During the month of August the infant gradually failed in strength, and, owing to absorption of subcutaneous fat, the skin lay in loose folds. It gradually became more pale and anemic, cross and fretful, sleeping only for short periods of time. September 1st the mother said it would cry when taken up, but would lie for hours upon the bed when undisturbed. It now had two teeth; its mouth was sore and the gums were red and swollen. September 29th it still cried when touched or when approached; the right leg kept motionless; the thigh was evidently swollen and very tender to the touch. The sore mouth persisted in spite of treatment by chlorate of potassium and other mouth washes. The gums were now so swollen as almost to cover the two teeth and bled when touched. It now became apparent that this was something more than marasmus. The true scorbutic nature of the case finally was recognized, and on October 1st the infant was placed on a mixture of milk, cream, and sugar of milk, giving it three ounces every two hours; also the expressed juice of half a pound of rare steak each day and the juice of one large orange daily. The only medicine given was a simple elixir of pepsin. Three days after the beginning of this treatment the infant was markedly improved. In ten days it could be taken up without any evidence of pain. The swelling of the thigh rapidly subsided. By November 1st, thirty days after the beginning of treatment, the patient had almost entirely regained his health and strength, excepting that he did not attempt to walk until eighteen months of age. This patient lived on sterilized milk for five months, when the bowel trouble commenced, and then on an exclusive diet of desiccated food for two and a half months, when well-marked scurvy symptoms developed. There were absolutely no symptoms of rickets in this case.

LARYNGEAL PAPILLOMA IN A CHILD—REPEATED INTUBATION—DEATH.

F. Lohrstorfer (*Med. Rec., 1896, l, 513*) reports the case of a child, aged three years Ten months ago the parents first noticed some difficulty in the child's breathing, but attributed it to asthma. The obstruction gradually increased, and when the child was brought to him it presented an appearance identical with that of one suffering from severe diphtheritic stenosis. The voice was whispering. A laryngoscopic examination was unsatisfactory on account of the fractious disposition of the patient, and a like attempt under chloroform nearly terminated fatally from suffocation. An intubation tube was at once inserted, with complete relief. Six days afterward the tube was removed, when dangerous dyspnea at once supervened. This, however, soon passed off, and in two or three days the breathing was quite free. The relief lasted four weeks, when stenosis again returned, worse than before. An O'Dwyer tube was again inserted. Four days later, as the child was playing in the street, it coughed the tube out and the dyspnea became at once urgent. A larger tube, which gave perfect relief, was introduced. The child's condition was normal in every way except for its loss of voice. This third tube remained undisturbed for three weeks, when, fearing injury to the larynx, it was removed. Instantly on its withdrawal the face became cyanotic, the pupils dilated, and the most strenuous efforts of the patient failed to provide air. Tracheotomy was at once performed and the immediate danger was over. In the night the child was suddenly seized with dyspnea and died in less than a minute, probably from some obstruction in the cannula, although both inner and outer tubes were removed in succession by the attendants. The autopsy, twelve hours later, showed a broad-based papilloma entirely encircling the interior of the larynx at the level of the vocal cords and completely blocking the passage. In spite of the last intubation tube remaining in three weeks, there was not the slightest trace of irritation of the larynx or trachea.

THE KLEBS-LOEFFLER BACILLUS IN APPARENTLY NORMAL THROATS AND NOSES.

H. W. Gross (*Univ. Med. Mag.*, *1896*, *ix*, *45*) states that from the investigations conducted at the Children's Hospital of Boston it was shown that out of 316 cases—the total number examined—26 at one time or another showed the presence of the Klebs-Loeffler bacillus. This gives a percentage of 8.2. Out of these twenty-six cases showing the organism two may be said to have had clinical diphtheria. Omitting these two, we may say that out of 314 normal throats and noses examined 7.9 per cent. contained the bacillus of diphtheria. The average persistence of the bacillus on the mucous membrane was fifteen days ; the shortest time was one day, and the longest 103 days, or over three months. Of these cases the nose was the principal habitat in 17 cases, or 65 per cent., the throat in the remaining 35 per cent. In one case the Klebs-Loeffler was found, together with other organisms, in the ear, the child suffering from otitis media, which may or may not have been due to this bacillus.

Of the twenty-six cases in which the organism was found, one is deserving of special notice from the length of time in which the infection persisted. Daniel C., aged 9 years, was discovered having the organism in his nose on January 31, two negative cultures, twenty-four hours apart, having been obtained one week before. From this time until May 13 daily cultures showed, with a few exceptions, the persistence of the organism on the nasal membrane. On May 14, 15 and 16, no Klebs-Loeffler bacilli were found, and it was thought by those in charge of the case an opportune time to rid the hospital of his presence. He was therefore discharged. Prior to this time, it is interesting to note, on several occasions, the bacilli seemed about to disappear. On February 25 and 26 none were found; on March 13 and 14 cultures were negative; and, again, on March 29, 30 and 31, three consecutive days, no diphtheria bacilli were found. But always on persistent search the bacillus was again demonstrated, often growing profusely in the tube. The virulence in this case was first tested by a culture taken on April 1. Two pigs were inoculated and both died within forty-eight hours, the autopsy showing the usual lesions of experimental diphtheria. Cultures taken on May 2 proved fatal to one guinea-pig in four days. Finally, a culture inoculated into two pigs, on May 12, seemed to possess little or no virulence, the only reaction being local induration, and in one pig, ulceration.

These experiments seemed to show that diphtheria bacilli, virulent and non-virulent, are present in an unfortunately large percentage of apparently unaffected nasal and pharyngeal mucous membranes.

TORTICOLLIS, DUE TO ADENOID VEGETATIONS AND CHRONIC HYPERTROPHY OF THE TONSILS.

A. J. GILLETTE (*Med. Journal, 1896, lxiv, 158*) reports three cases, all of which recovered after the removal of the adenoids. The first case was a boy seven years old ; right sternocleidomastoid muscle so much contracted that the ear was within an inch of the shoulder ; marked asymmetry of the face and head. The mother stated that as soon as she began to dress the child she noticed that "its head was crooked"—that is, within ten days after its birth—and that she could not straighten it. It was not, however, so marked that a stranger would notice. She observed that the cord (sterno-mastoid) showed much plainer on one side than on the other. The child seemed to have no pain and was not fretful in any way that would suggest any inflammatory irritation. The deformity gradually increased until it was very marked. His tonsils were much enlarged. There was a complete nasal stenosis. After removal of the nasal stenosis and the enlarged tonsils there was a marked improvement. The sternocleidomastoid was divided. Within six months the face was as nearly symmetrical as is usual. He is now perfectly cured, and there is no tendency, and never has been, to the return of the deformity.

The next case was that of a baby sixteen months old. The mother noticed, when he first tried to sit up, that he did not hold his head quite straight, and when he was old enough to be attracted by noise that he did not seem able to turn his head in one direction as well as in the other. She had noticed, a few weeks before, that when suffering from a slight cold, he seemed to hold his head more crooked than at other times. The family history was good, the birth normal, the child was bright, and there was no evidence whatever of any paralytic trouble. The left sternocleidomastoid was prominent and held rigid by tonic spasm; asymmetry of face and head and slight pigeon breast. This boy was also examined; the tonsils were not much hypertrophied, but the vault of the pharynx was filled with adenoid growths. These were removed. For a day or two the child seemed to hold its head in a more abnormal position than usual, but two weeks after there was an improvement both in the position of the head and the symmetry of the face.

The third case of this nature was not of the congenital variety. The child had, in infancy and early childhood, rickets, from which it made a perfect recovery. When three years old it developed a wry neck and the mother stated that some six weeks previously the child was suffering from a cold. A physician was called, and hot applications were made to the contracted side of the neck, and medicines administered internally. There was no fever or constitutional symptom of any kind; there was no vertebral trouble, adenitis, or anything to cause the contraction of the sternocleidomastoid muscle. There was, as in the other cases, the same condition of the vault of the pharynx—filled with adenoid vegetations. This was removed, and the child was entirely cured of the deformity.

SUCCESSFUL LAPAROTOMY AND KRASKE OPERATION ON AN INFANT TWO DAYS OLD, FOR IMPERFORATED RECTUM.

J. W. ELLIOT (*Med. News, 1896, lxix, 436*) says that an infant, two days old, was brought to him at the Massachusetts General Hospital, with the history that it had passed no meconium since birth. The child weighed six pounds ten ounces at birth. Examination revealed a perfectly formed anus, which proved to be a blind pouch, less than a quarter of an inch deep. The abdomen was distended and hard. The little finger was easily passed into the vagina, but detected no bulging of the bowel.

An incision was made from the anus to above the level of the top of the sacrum. After a few minutes' dissection, it became evident that the lower rectum was entirely absent. The posterior wall of the vagina bulged into the wound, and was opened in order to inspect its upper end. The coccyx was next removed with scissors, but no portion of the rectum could be found. The lower part of the sacrum was next cut out on the left side, up to about the third foramen, making a regular Kraske operation. The finger was then pushed in just in front of the sacrum to a considerable depth, but the bowel could not be felt. The child was then turned on its back in the Trendelenburg position, and the abdomen opened in the median line. The urachus and the bladder were met lying against the abdominal wall and were avoided.

The lower bowel was found to consist of a greatly distended pouch which filled the abdomen and seemed to spread out over the whole pelvis, but not to enter it. Its distended condition prevented pushing it down into the pelvis. A trocar was passed in through the sacral wound, and with two fingers in the abdomen to guide, it was pushed into the distended bowel. Gas escaped freely, and as soon as the bowel had collapsed, he was able to push it down in front of the sacrum until it was caught in the sacral wound, where it was opened and stitched to the skin as in a regular Kraske operation. The abdominal and perineal wounds were quickly closed with sutures.

The infant bore the operation remarkably well. Great care was taken to keep it warm. It was fed on modified milk.

The temperature rose to 102° F., and pulse, 140. On the fifth day the temperature was normal, and gas and feces passed freely through the artificial anus. The child gained nearly two pounds in the next three weeks, and was discharged from the hospital on the twenty-seventh day in good condition. The wounds had healed rapidly, and the opening into the rectum was large and needed no dilatation.

A letter from the parent, a doctor, three months after the operation, reported the child in excellent health, but the opening into the rectum had required dilatation.

PROPHYLAXIS AND THERAPEUTICS OF RICKETS.

S. Sterling (*Archiv. fur Kinderheilk*, *1896*, *xx*, *1 and 2*), in an interesting article on rhachitis, calls attention to the following points in the differential diagnosis:

1. The nonclosure of the anterior fontanelle may also occur in inflammatory effusions into the brain cavities, in tumor of the brain, and in hydrocephalus. Hydrocephalus is distinguished from rhachitis as follows:

(a) The enlargement of the skull is mainly produced by palpable osseous layers in rhachitis.

(b) The anterior fontanelle is tense in hydrocephalus, while in rhachitis it may be prominent but only temporarily.

(c) By the finding of choked disk on ophthalmoscopic examination in hydrocephalus, and frequently distension and tortuosity of the external veins of the skull.

(d) In hydrocephalus there is disturbance of speech, the *cri hydrocephalique*, paralysis, paresis, etc.

(e) In rhachitis, despite deformities of the skull, there is no diminution of the intelligence; in hydrocephalus, there is degeneration of this physical function, which may be even perceived in the facial expression of the child.

There may be present a combination of rhachitis and hydrocephalus when these symptoms will be found mixed.

2. *Lues congenita.*—The epiphyseal and diaphyseal enlargements of the long bones are clinically the same in lues and rhachitis. *Osteochondritis luetica*, makes its appearance in infants from four to five weeks old, rhachitis appears later. The so-called rhachitis congenita is still denied by many. In lues there are present affections of the skin and mucous membranes, suppurative articular inflammations, and pseudo-paralysis, besides the osseous changes.

3. In Pott's disease, the protuberance of the spine is conical; the form of the rhachitic hump is round.

4. Sometimes a bronchial catarrh accompanying the laryngospasm in rhachitis is mistaken for whooping-cough.

5. Convulsions unaccompanied by fever would raise a suspicion of their rhachitic character. These very valuable differential points are much elaborated in the author's paper.

THYROID TREATMENT OF EXOPHTHALMIC GOITRE IN CHILDREN.

Firbas (*Jahrb. fur Kinderheilk, 1896, xli, 3 and 4*). The usual treatment of struma with iodine has given pretty satisfactory results. Nevertheless, Firbas took up the thyroid treatment in twenty-seven cases, giving the gland both in its raw state and in the form of powder. The raw thyroid gland of the calf, after removing the fat and its capsule, was chopped fine and given on bread, with the addition of a little salt and pepper. Once or twice a week, a dose of 6 to 12 grms. is taken willingly by the older strumous children. The powdered thyroid gland was given in doses of 0.5 to 1.0 grm., two or three times a week. When Bourroughs, Welcome & Co.'s tablets were used, one to two (each containing 0.09 grm.) were ordered. Mercks' extract of dry thyroid was used twice a week in doses of 0.1 grm. with sugar. Improvement of the struma was only noticed after a treatment lasting weeks. When the thyroid preparations were discontinued the swelling of the neck again increased. In one case the circumference of the neck was reduced in one month from 29.5 cm. to 26.0 cm. After stopping the treatment, the swelling is said to have again increased. There were no symptoms of intoxication, only occasionally loss of appetite and general discomfort were experienced. When the doses were carefully watched, there occurred little and only temporary loss in weight. In myxedema, the therapeutic results are more brilliant than in struma. The author nevertheless maintains, in accord with Bruns, that not a small number of parenchymatous goitres in the young may be favorably influenced by a long continued treatment with thyroid substance.

THE RESULTS OF EAR DISEASE ON THE INFANTILE ORGANISM.

A. Bruck (*Arch. fur Kinderheilk, 1896, xx, 54*) says that although otiatrics has made great progress during the last few years, necessary attention is frequently not given to the ear affections of childhood. He gives a description of the anatomical conditions of the ear, which are present in the child and not in the adult (annulus tympanicus, different conjunctions of the vessels between the mucous membrane of the tympanum and the dura mater, different construction of the wart-like process, horizontal position of the Eustachian tubes in the child, etc.). The local processes of the neighboring organs of the ear, notably, the catarrhal diseases of the nasal cavities, and the postnasal pharynx, adenoid vegetations, give rise to inflammations and exudations within the ear—curtailing the sharpness of hearing, causing noises in the ear, and giving rise to otitis media perforativa. On account of the shortness, wideness, and horizontal position of the Eustachian tubes, an infection of the ears from the naso-pharynx is very easily produced. The healing of an otitis media is also influenced by an existing affection of the naso-pharynx. The aurist is therefore obliged to know minutely the rhinological conditions which may influence ear disease. The infectious diseases of childhood (scarlatina, diphtheria, measles, whooping-cough) furthermore play an important role in the etiology of otitis media. The scarlatina-diphtheritic otorrhea is a particularly serious affection, and sometimes produces extensive destruction. In an attack of measles the ear should always be diligently inquired into and examined. Clark, of Boston, declares a doctor to be without a conscience, who neglects the ears in a case of acute infectious disease, and that many a child could be kept from becoming a deaf-mute. It is not unusual for micro-organisms to be forced into the wide Eustachian tubes by paroxysms of cough during a catarrhal pneumonia, or capillary bronchitis and give rise to an otitis media. There is a form of otitis media acuta infantum not altogether rare, which simulates the symptoms of a meningitis (convulsive twitchings, stupor, high fever). The chronic middle ear catarrhs are apt to lead to carious processes of the bones, in the early period of childhood, owing to the great tenderness and porosity of the bones. Of what great influence is an early acquired partial deafness on the whole mental development of the child. The connection between a cerebral disease, which usually ends fatally, and a discharge from the ear is still too frequently overlooked, where a paracentesis, removal of granulation tumors, etc., if done at the proper time, would have saved the life of the patient.

THE TREATMENT OF ECZEMA IN CHILDREN.

Duenges (*Centralbl. f. Kinderheilk.*, *1896*, *vi*, *182*). One form of eczema which may materially interfere with the health of the child is that form which usually appears on the bottom and posterior aspect of the thighs of infants. Its origin can generally be traced to the irritating quality of the urine and feces. These children cry a great deal, sleep proportionately little, and, besides, there is danger of ulcers and abscesses forming on the diseased parts, with their accompanying ill effects on the health, and even more serious consequences may result. As these cases often resist all kinds of treatment with ointments and baths, the author recommends one which has given him the most rapid and excellent results.

The child must at first be given a bath of 27 to 28° R. It is of importance to dry the child after the bath without friction of the diseased parts, by the simple pressure of a soft towel, or absorbent cotton. Following the bath, any kind of babies' powder is to be thoroughly dusted on the eruption, and then it is to be covered with guttapercha sheeting, which must be kept well in place by the diaper, or, if necessary, by a roller bandage. In this way the deleterious effect of the urine coming in contact with the skin is avoided, and a chance given the parts to heal. Frequently the moist eczema is already converted into the dry, scaly form on the second day of treatment, and rapid healing takes place.

ETIOLOGY AND TREATMENT OF ENURESIS.

G. KOESTER (*Deutsche Medic. Wochenschr., 1896, xxii, 364*) has revived the electrical treatment of enuresis, first recommended by Seeligmuller in 1867, and obtained very satisfactory results. After the patient has emptied his bladder, he lies down on a sofa at full length. The anode of a faradic battery, armed with a medium-sized round electrode, is placed on the abdomen, just over the region of the bladder, while the cathode wire, after having been thoroughly disinfected with a 5-per cent. solution of carbolic acid, is inserted into the urethra for 1 to 1.5 cm., and thus held. Allow the current to pass and gradually increase its strength as high as the patient can bear with comfort. Continue for two to three minutes, then gradually weaken the current to its lowest power, where it is allowed to remain for one minute. After this procedure has been repeated three times the séance is ended. Frequently this one treatment is sufficient for a cure. It is better, however, to repeat it a few times during the following three or four days. Whenever the patient has soiled either the bed or his clothing with urine, an application of the current should be made the following day, and only when no enuresis has occurred for a number of days in succession should the treatment be discontinued. He has treated 20 cases (11 boys and 9 girls). Of these there were 11 cases of enuresis nocturna et diurna, of which 9 were cured, and one was improved; and 9 cases of enuresis nocturna, of which 8 were cured. The number of sittings given were, in 7 patients, only one; in 6, two; in 3, three; in 2, four; in 1, twelve; and in 1, twenty; the average, therefore, being two séances. The cures were permanent.

He believes the cause of enuresis to be a weakness of the closing muscles of the bladder, the sphincter vesica and compressor urethra. The irritation produced by the cathode influences these muscles reflexly, hence the success of the method. Even in cases accompanied by obstruction to nasal respiration, or adhesions between glans and foreskin, and in orthophimosis, the result was satisfactory, which goes to prove, that an accompanying weakening of the sphincters must at least have existed. The strengthened sphincters were able to resist the reflexly irritated detrusors. Another case, in which the reflex irritation producing evacuation of the urine had been removed by the curing of a phimosis of two years' standing, still suffered from enuresis, until cured by the electrical treatment. This case also corroborated the fact insisted on by Henoch, that enuresis may follow the infectious diseases, for the boy remained cured, until he had an attack of measles, when a relapse occurred. From taking cold and through psychic excitement the sphincters of the bladder may experience a temporary weakness. General debility is not a very important factor as a predisposing cause, it being only present in 7 out of the 20 cases, the rest having a strong and even robust constitution. In one case heredity seemed to have had some influence, as the father suffered from enuresis up to puberty, and a brother is still subject to it.

A CASE OF SIMULTANEOUS INFECTION WITH SCARLATINA AND MEASLES.

J. Lange (*Jahrb. fur Kinderheilk, 1896, xlii, 35*). A healthy child was suddenly taken with vomiting, high fever and rapid pulse, headache, delirium and angina, accompanied by swelling of the glands in the neck, and a very slight exanthem on the neck and cheeks, resembling the scarlatinal rash. The eruption gradually extended until the 4th day of illness, with first rising then receding general symptoms, and on the

6th day a scaling of large lamella began on the face and neck, which did not fully disappear until after six weeks. On the fifth day, that is before the scaling process had begun, there occurred a multiple articular inflammation, evidently serous, which after a short time disappeared without leaving any trace. On the 8th day, with a gradually rising temperature, a catarrh of the upper air passages set in, which, with the lowering of the temperature, seemingly improved. On the 11th and 12th day there was again a rapid rise of temperature to 40.5° C. with a recurrence of all former catarrhal symptoms during which however the frequency of the pulse did not arrive at the same height as during the first exanthem, and on the 11th day a typical measle eruption, which was preceded by one on the mucous membranes, made its appearance. While the desquamation of the scarlet fever process was still going on, a characteristic mealy desquamation of short duration appeared on the 16th day, involving the face and neck. By comparing the fever curves carefully, we find two typical periods, the first characteristic or a mild case of scarlatina, the second of a more intense case of measles. As a sequel there followed a unilateral purulent otitis media, and yet later, toward the end of the 6th week, a slight serous peritonitis, from both of which the child recovered.

This case is also interesting from an etiological point of view, as the period of infection was determined precisely from the day and hour it occurred. The patient on June 22d came in contact with other children, two of whom were still in the stage of desquamation following an attack of scarlet fever, while a third was sent away on account of some catarrhal symptoms and red spots on its face. The patient was taken with scarlet fever, after an incubation period of three times twenty-four hours. On July 2d, i.e., on the 11th day, the prodromal catarrhal symptoms of measles made their appearance, and on July 5th, the fourteenth day after infection, the typical measles eruption was present. As regards the question whether, in such cases, the exanthemata have any influence on each other, opinions differ. Johannessen, Grancher and Besse think that scarlatina following measles has a good prognosis, while in measles following scarlatina the prognosis is very unfavorable. Flesch, however, is of the opinion that the scarlatinal poison is modified where the measles come on later, and Steiner expresses his belief that the older infection is favorably influenced by the last one, it being unimportant whether it be measles or scarlet-fever. The author denies that there is any influence at all exerted by one upon the other. He only admits that a severe form of scarlet-fever preceding may so weaken the patient that the following measles may exert a dangerous influence on the weakened organization, and vice versa; but this is not to be attributed to the specific poison of scarlet-fever and measles, but any disease which debilitated the patient would have the same effect.

A TWINBIRTH WITH AN EXTRAORDINARY LONG INTERVAL BETWEEN THE RESPECTIVE BIRTHS OF THE TWO CHILDREN.

C. Parrat (*Munch. Med. Wochenschr., 1896, xliii, 52*). On looking over the rather rich literature on twinbirths, it is rare to read of long intervals elapsing between the birth of each child. Usually the interval between the births of the two children is considered to be a few minutes, rarely an hour, and exceedingly rarely is there an interval of two or three days. Occasionally there are reports of twinbirths where this time is greatly exceeded; some report intervals of many days, even weeks. In judging of the causes which might produce the retention of the second child in the womb, it is not to be forgotten that by a necessary early operation for the extraction of one child, while the other is left to be dealt with by the natural forces, such a long interval is quite explicable. Of much greater interest are the cases where the children were carried to term, and were borne singly with a lengthened interval between each birth, and who remained alive for some time after. According to well authenticated cases of recent times, we may concede an interval between the birth of the first and second child in twin labor of a few weeks' duration (Kaltenbach). Reports of such cases are quite frequent in recent times, where a pause of 1 to 6 or even 7 weeks has occurred between the birth of twins. In the *Annales de la Soc. de méd. d'Anvers* (1886), an interval of 54 days is recorded; in the *Wien. Med. Wochenschr.*, one of 18 days. Pincus mentions a case where the interval was 36 hours, but the twins were prematurely born. It is always to be taken in consideration, that where labor comes on in the early stage of pregnancy, there is very likely a retardation in the expulsion of the second child; it is only necessary that the causes which were active in producing the expulsion of the first child, should be eliminated after that is accomplished; the labor pains cease, the parts close again, and the second fetus remains in the mother's womb until a new irritation gives the incentive to its expulsion. The author then reports a case in his own practice. In this there was an interval of 36 hours between the birth of the first and second twin-child, and would have been some hours longer, if nature had not been assisted towards the end. The case was further interesting from the fact that one of the placentas was undergoing decomposition, which was indicated by a foul odor after the birth of the second child. As to the therapeutic indications in these cases of delayed expulsion of the second child, it seems proper, unless there are dangerous indications present, to wait and allow nature to finish her work. Kristeller holds that a retardation of the second birth is rather a fortunate occurrence, as the uterus can recover itself, and is able to resume the process of labor with stronger pains. The only drawback to this expectant treatment is the disintegration of the retained placenta. Fr. v. Winkl, while also counseling inactivity, urges great watchfulness of the condition of the heart, and probable hemorrhage. Scanzoni thinks it prudent to wait for some hours, and if the labor pains do not return in 4 to 5 hours it may be permissible to assist them by rupturing the membranes, and making light friction over the fundus uteri.

AN UNUSUAL CASE OF MOLLUSCUM CONTAGIOSUM.

KAPOSI (*Wiener Klin. Wochenschr., 1896, ix, 419*) showed this case to the Wiener Dermatolog. Gesellschaft. It was an infant, six and one-half months old, well developed, and taking the breast. Six weeks previously the child was perfectly healthy, when an affection closely resembling the acne of bromism developed on the hairy scalp. On the left cheek were situated dark-brown crusts, on a raised surface, the right and left arm were both covered with confluent nodules from the size of a penny to that of a dollar, covered with dark-brown, dirty looking, fissured crusts, and forming an uneven swelling. On the posterior aspect of the left leg were two nodules, sharply outlined, with abrupt borders of a reddish tint at the base, but their superficial surface were covered with thick, dark green crusts. Of the left lower leg there were a number of sausage shaped efflorescences. On careful examination there were discovered in the region of the forehead, the nose and throat, disseminated efflorescences, smaller in size than a barley-corn, and little nodules with a watery glimmer, which, however, did not contain fluid. They were arranged in stripes and streaks. The larger nodules were also transparent, possessing a slight depression in the center. On the forehead and tip of the nose large placques were present, which have sharp outlines and abrupt borders, with a little depression in the center. Along the borders there were noticed transparent vesicles, arranged in the form of a rosette. These nodules, with a depression on them, roused the suspicion of molluscum contagiosum, especially as neither the mother nor child had at any time taken bromides. The accidentally expressed pap-like mass, on microscopical examination, proved to be epidermoidal masses and contained no molluscum corpuscles. Only in examining the contents of an efflorescence situated at the junction of the thumb and index finger, numerous molluscum corpuscles were found. The efflorescences had externally also a similarity to the molluscum, as long as they were not covered with crusts. The larger efflorescences were formed by the aggregation of many such swellings, from which the fatty degenerated masses had exfoliated, and were now present as irregular layers. To designate this case was a difficult one, and he proposed to name it molluscum contagiosum giganteum.

AN ADDITION TO THE THERAPEUTICS OF SUMMER DIARRHEA IN INFANTS.

O. Reinach (*Munch. Medic. Wochenschr.*, *1896*, *xliii*, *421*) made a report in H. v. Rankes' clinic, on the use of serum, for its blood thinning qualities, in severe cases of gastro-enteritis. The sterilized serum of the cow was used, though horse serum is now employed, since Landois proved that the latter was perfectly harmless to the human blood corpuscle. The experiments were made on fifteen children, ranging in age from fourteen days to nine months, all of them very serious cases, some nearly moribund. These children were all artificially fed, and were suffering from acute digestive disorders, and treatment was commenced two to three days after the beginning of the disease, when they had already rapidly lost flesh. Four of the patients died, two with severe lobar pneumonia, and two of severe follicular disease of the large intestine. In the rest of the children the serum treatment showed a favorable influence on the disease. The general appearance improved, the eyes became clearer, cyanosis became less, the arterial vessels of the skin became injected and digestion was rapidly improved. Nourishment consisted of thin rice water during the first 24 to 48 hours.

About 10 to 26 ccm. of serum were injected under the skin of the thorax. No reaction ever occurred at the site of puncture. In one case an eruption similar to measles, lasting two days, appeared after two weeks, without any fever. Fever was noticed in two cases after the injection, and in one case rose to 38.5°C. The rapid improvement of the digestive power and of the stools, in most cases, was partly due, without doubt, to ingredients of the serum, which vitalized metabolism. Especially does common salt exert an influence on glandular action. The fact that albumen is injected subcutaneously in the serum is probably of importance, when we remember that in these cases nourishment was withheld for a number of days. In 20 ccm. of the serum, the albumen amounted to 1.5 grm., equal to the amount of albumen contained in 50 grm. of undiluted cow's milk, or 150 grm. of mother's milk. This of course is but a small quantity. It is, however, possible to divide a larger portion of serum into two parts and inject, and, at all events, it seems to some purpose that even small quantities of nourishment should be brought into the body where all food has been stopped by the mouth. Further researches in this direction will be made.

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Original Articles.

ANTITOXIN IN DIPHTHERIA.

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THE antitoxin treatment of diphtheria recalls many other mooted points in medicine in which partisans have disagreed through careless observation or limited experience. To assert that antitoxin is the best remedy for diphtheria, without specifying what kind of diphtheria, will do harm both to the new method and to the medical profession.

The best classification of diphtheria is the following:

1. True Diphtheria:
   - *A*. Pure [where we find a pure culture of Klebs-Loeffler bacilli].
   - *B*. Mixed [where we find other bacteria associated in great numbers with the Klebs-Loeffler bacillus in culture].

These associations are:

- *a* With small cocci (Brison).
- *b* With staphylococci pyogenes.
- *c* With streptococci.

2. False diphtheria, including all croupous inflammations of throat or larynx, in which the Klebs-Loeffler bacillus is neither present singly nor in association with any of the above varieties of bacteria.

Klebs-Loeffler diphtheria is entitled to the name of true diphtheria because it is more likely to be followed by multiple neuritis. Not only do these three forms of diphtheria differ bacteriologically, but they differ in their effects upon the patient. In true diphtheria the bacilli are localized at the site of invasion, rarely, if ever, are the bacilli found in the blood or viscera; it is the toxin which is discharged into the blood and lymphatics that causes the constitutional disturbances of true diphtheria.

In pseudo-diphtheria, on the contrary, the germ itself gets into the blood and viscera, and the bad effect of the disease is due not so much to a toxin poisoning as to the presence of the bacteria.

In tenement-house diphtheria at least half of my cases are not Klebs-Loeffler diphtheria. Since using antitoxin I have had too many cases of septic nephritis, of septic pneumonia, of rises and falls in temperature resembling malaria, to believe that it is not due to the antitoxin, but is only a coincidence. My explanation of these bad results is that they are cases of streptococci infection, and that the antitoxin, being carried to the viscera, attracts the streptococci present, and acting as a favorable nidus for their development, septic nephritis, and pneumonia, etc., develops. It is in tenement-house diphtheria, where the reports of the Health Board are often negative in cases which are clinically diphtheria, that antitoxin gives doubtful results. That antitoxin is of the greatest value in neutralizing the toxin of Klebs-Loeffler diphtheria there can be no doubt. But judging from the results of my experience with the remedy in tenement-house diphtheria, and judging from the results of other physicians in the same class of cases, I am justified in entering an emphatic protest against the indiscriminate use of antitoxin in diphtheria, regardless of the type of diphtheria we have to deal with. Let me, for the purpose of illustrating my point, give the clinical history of exactly two similar cases of tenement diphtheria, as typical of the severest type of the disease one is likely to encounter under such circumstances, the one treated with, the other without, antitoxin.

Case 1. Geo. S., aged 5, was sick for four days before my arrival, with a history of fever, vomiting and prostration. On the day of my first visit, Feb. 20, 1896, these symptoms were still present: the tonsils were swollen, turgid, blocking the fauces and covered with a dirty gray membrane, which extended to the uvula and soft palate; there was a fetor from the nose and throat, the nostrils discharged bloody pus, the pulse was above 120 to the minute, there was adenitis; no antecedent history of measles, scarlet fever or influenza. No bacteriological analysis was made, the case being perfectly typical to my mind. The sister developed a mild diphtheria about four days later and recovered under the use of antitoxin; she had a fairly severe attack of nephritis, from which she recovered in the course of a few weeks.

On Feb. 21st, the symptoms having become worse, 1000 units of Behring's antitoxin were injected by Dr. Geo. Bieser under the right axilla, with careful antiseptic precautions. On February 22d the mouth, lips and extremities became cyanotic, the surface cold, the urine was diminished and highly albuminous, the boy was semi-comatose and pus still issued from the nostrils, but the fetor was somewhat improved. On February 23d he rallied. The pus from nose diminished, and the fetor had nearly disappeared. Attributing these results to the antitoxin another dose was injected. On February 24th the patient again went into collapse, passing much less urine than before. I poulticed the lumbar region, gave diuretics, stimulants and rectal enemata. On February 25th he coughed up yellowish-gray pieces of membrane, showed very little pus issuing from the nose; there was very little fetor, but nevertheless, in spite of these apparently favorable symptoms, he died that day with a slow pulse while trying to get up.

Case 2. Geo. N., aged 3, was sick for three days with fever, vomiting and prostration. At the time of my first visit, September 28, 1896, I found a picture exactly similar to the previous one, the tonsils swollen and blocking the fauces, covered with a dirty yellowish-green membrane, there was fetor, adenitis, greenish and bloody pus issuing from the nostrils, the pulse was above 120 and there was decided prostration. Klebs-Loeffler bacilli were present. I ordered 1-48 gr. bichloride of mercury, five of tincture of chloride of iron, and one to two teaspoonfuls of whisky every hour. But the child became semi-comatose, and the mother, thinking it was sleeping, did not wake the child to give it its medicine. The result was that at the end of four days the boy was horribly septic, surface of skin cold and cyanotic, the pulse rapid and feeble, lying with half-closed eyelids and rolled up eyeballs, with noisy nasal respiration, with open mouth, the mucous membrane of which was becoming dry and purple. The boy was semi-comatose and in collapse. Discarding, after consultation, the idea of antitoxin injection as hazardous and useless in this case, I insisted upon the rigid adherence to the treatment first laid down. The parents adhered to the instructions only too carefully, sometimes giving the mercury half hourly, and after three days and nights of this treatment, to my great surprise the boy improved and finally recovered. There was plenty of urine passed in this instance. Antitoxin might have caused suppression, as in the first case; at any rate it would have been injected late and with problematical result. I can recall two cases of septic pneumonia occurring in two cases of diphtheria treated with antitoxin. Other physicians with whom I have spoken have also had the same unfortunate results. Most tonsillar naso-pharyngeal cases of diphtheria get well; 95 per cent. recovery is, I think, a reasonable estimate; it is the laryngeal cases that are so fatal.

Of twenty-five cases of tonsillar and naso-pharyngeal diphtheria, without laryngeal involvement, treated by me this year without antitoxin, all recovered. Ten showed the presence of the Klebs-Loeffler bacillus, the others did not. Of fourteen similar cases treated by Dr. Geo. Bieser with antitoxin, one died. That antitoxin is very efficacious in diphtheria of the larynx due to the Klebs-Loeffler bacillus no one will deny. (See the excellent statistics gathered by the best intubators of New York, Brooklyn, Chicago and other cities). But is it so efficacious a remedy in cases of secondary involvement of the larynx by false membrane in mixed infection or pure streptococcus diphtheria? In the former variety of laryngeal diphtheria we must remember that after the immediate danger (suffocation) has been removed we have only the toxin in the blood to fight, and antitoxin does seem to be effective in neutralizing this toxin. But what are the results in cases of pseudo-diphtheria. Through the courtesy of Dr. Geo. Bieser I am able to report his cases of diphtheritic or membranous laryngitis treated with and without antitoxin, and extending over the same period of time.

Comments: Recovery 28 per cent. Case 1 developed heart failure from pulmonary edema, recovered from this, developed septic pneumonia with septic fever curves running over three or four weeks. Relied mainly upon mercury, iron and stimulants. Klebs-Loeffler bacilli were present here. Cases 2 and 4 developed septic pneumonia and died of slow heart failure. Case 3 responded nobly to antitoxin; Klebs-Loeffler bacillus was here present. On seventh day the larynx closed up again and cleared up with calomel fumigations. Case 6 was injected very late in the disease, showing that antitoxin must be injected early to be of use. Case 7, antitoxin could not prevent the fatal ending.

TABLE OF INTUBATION CASES TREATED WITH ANTITOXIN.

Date.	No.	Age.	In Practice of	Duration of the Laryngeal Symptoms.	Duration of the Throat Diphtheria.	Treatment	Cause of Death.	Complications	Result.
1895. May.	1	5 yrs. 7 mths.	J.H. Fruitnight. T. Kelly.	Two Days.	Present.	Antitoxin.		Measles. Wh'opin C'gh Pneumonia. Edema Lungs.	Recovered. Wore tube 10 days, 19 hrs
Aug.	2	3 yrs. 4 mths.	J. H. Dew.	Two Days.	Seven Days.	"	Slow Heart Failure.	Pneumonia.	Died 1 day 20 hrs after intubation.
1896. Feb.	3	2 yrs. 4 mths.	J.H. Fruitnight.	Three Days.	Present.	"			Recovered. Tube coughed up 3d day.
May.	4	2 yrs. 1 mth.	J.H. Fruitnight.	Two Days.	Three Days.	"	Sepsis Slow Heart Failure.	Pneumonia.	Died 6 days after intubation.
May.	5	4 yrs. 6 mths.	W. B. Holden.	Two Days.	One Week.	"	Sepsis Extension.	Pneumonia.	Died 1 day 4 hrs after intubation.
June.	6	2 yrs. 3 mths.	J.H. Fruitnight.	One Week.	Ten Days	"	Sepsis Exhaustion.	Pneumonia.	Died 2 days after intubation.
June.	7	4 yrs.	W. B. Holden.	Three Days.	One Week.	"	Sepsis Heart Failure.	Double Pneumonia.	Did not intubate. Child in extremis.

Comments: Recovery $35\frac{5}{7}$ per cent.; of the five that recovered only two showed the Klebs-Loeffler bacillus; of the

TABLE OF INTUBATION CASES TREATED WITHOUT ANTITOXIN.

Date.	No.	Age.	In Practice of	Duration of the Laryngeal Symptoms.	Duration of the Throat Diphtheria.	Treatment.	Cause of Death.	Complications.	Results.
1895. Jan.	1	3 yrs.	A. E. Bieser.	2 days.	4 days.	Mercury, Iron, Whisky.		Neuritis.	Recovered. Wore tube 9 days.
Jan.	2	1 yr 6 mths.	J. H. Fruitnight.	1 day.	6 days.	"	Sepsis Extension.	Pneumonia.	Died 3 days after intubation.
Mch.	3	4 yrs. 6 mths.	A. E. Bieser.	6 days.	7 days.	"	Slow Heart Failure.	General Paralysis Neuritis.	Died 45 days after intubation.
May.	4	5 yrs. 7 mths.	A. E. Bieser. J. H. Fruitnight.	3 days.	Present.	"		Measles, Whooping-Cough, Pneumonia, Edema Lungs.	Recovered. Wore tube 10 days.
July.	5	15 mths	A. E. Bieser.	2 days.	Present.	"	Extension to Bronchi.		Died 17 hours after intubation.
July.	6	4 yrs.	J. H. Fruitnight.	2 days.	4 days.	"	Extension to Bronchi.		Died 2 days, 5 hrs. after intubation.
Sept.	7	4 yrs. 10 mths	J. H. Dew.	5 days.	7 days.	"		Roseola.	Recovered. Wore tube 5½ days.
Dec.	8	3 yrs. 2 mths.	J. H. Fruitnight.	1 day.	3 days.	"	Extension to Bronchi.	Influenza.	Died 1 day, 15 hrs after intubation.
1896. Jan.	9	5 yrs. 4 mths.	J. H. Fruitnight.	4 days.	Present.	"	Extension to Bronchi.	Measles.	Died 2 days after intubation.
Apr.	10	5 yrs.	Geo. Bieser.	2 days.	Present.	"		Multiple Neuritis.	Recovered. Wore tube 5 days.
May.	11	2 yrs. 10 mths	J. H. Fruitnight.	2 days.	3 days.	"			Recovered. Wore tube 7 days.
May.	12	10 mths	W. B. Holden.	2 days.	3 days.	"	Extension Slow Heart Failure.	Measles.	Died 12 hours after intubation.
June.	13	2 yrs. 11 mths	J. H. Fruitnight.	5 days.	7 days.	"	Sepsis.	Pneumonia.	Died 22 hours after intubation.
June.	14	3 yrs. 1 mth.	J. H. Fruitnight.	6 days.	9 days.	"	Sepsis Extension.	Pneumonia.	Died 10 hours after intubation.

death only two showed Klebs-Loeffler bacillus. Had I excluded the measles and influenza case which would be done in antitoxin statistics, as antitoxin cannot help in such cases, I would have $45\frac{5}{11}$ per cent. recoveries. Several of my cases were dying at the time of operation. If antitoxin is placed under the same disadvantages as confront, for example, the mercurial treatment of laryngeal diphtheria in tenement-house practice, will it yield a better record than the mercurial treatment of diphtheria?

Summary:

1. Inject antitoxin only in cases which you know to be true Klebs-Loeffler diphtheria.

2. In doubtful cases, in cases where the bacteriological examination is negative, and in cases which clinical experience teaches you are likely to respond badly to antitoxin, avoid it.

3. Do not inject antitoxin indiscriminately; in most cases no harm is done, but trouble may result, and you may give false impressions as to the value of antitoxin in the treatment of diphtheria.

VARICELLA.

By Arthur Stern, M.D.,

Elizabeth, N. J.

VARICELLA, once regarded as a slight and benign disease, has long since come to be recognized as potentially, at least, a grave one. During the last two decades there have come under our observation cases in which the disease either assumed a very serious character or was attended by complications of a serious nature.

For example, Brunner reports a case during the progress of which there developed an acute inflammation in the region of the right elbow-joint, metastatic parotitis, otitis, multiple abscesses and infiltration of the right lung, and which terminated fatally. He further reports that the autopsy showed pus in the mediastinum, pericardium, bronchi, spleen and kidney, in which staphylococcus pyogenes aureus were found.

The Russian author, Semtschenko, reports two interesting cases which came under his observation during the course of a very severe epidemic. In the one case there developed an empyema, in the other a putrid synovitis. Semtschenko observes that, inasmuch as the epidemic was then at its height, and as both cases developed at the same time, and there were entirely wanting any other data which would reasonably explain away the pleurisy and the synovitis, it were idle to contend that the latter were not legitimate possibilities of the varicella itself.

Reference may be made also to Henoch's "Nephritis Varicellosa," which argues much, indeed, for the toxic properties of the disease, and necessitates the inclusion of a nephritis among its possible developments.

During the past two years I have myself observed two cases of an uncommon character. In one of these the pustules became gangrenous (the accuracy of the diagnosis may safely be assumed since other cases of the disease had developed in the same house and in other houses of the immediate neighborhood). The second case was far more interesting. A boy of five years, and apparently in the flush of health, was taken sick in the evening with convulsions and high fever. The following morning I found a croupous pneumonia of the lower lobe of the left lung and varicella—pulse 130, temperature 104. The pneumonia rapidly assumed serious proportions and induced great prostration, but terminated favorably on the fifth day.

Instances multiply in which varicella is observed in conjunction with other forms of disease arising simultaneously or in immediate sequence, and which, in view of the remarkably few instances in which we find the simultaneous development of two or more separate diseases, seem unexplainable except upon the theory that there exists some special relation between the varicella and the disorders arising with it.

Says L. Galliard in "La Medecine Moderne"—"La Varicelle passe generalement pour une Maladie simple, regulière dans ses allures, facile à reconnaître. J'ose dire qu'elle peut être capricieuse et difficile à diagnostiquer. *Elle passe pour une Maladie bénigne, vierge de complications. Je dis qu'elle peut être grave, maligne, compliquée.*"

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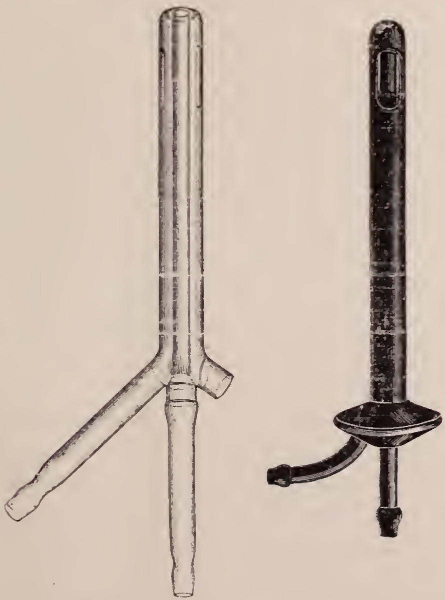
A GLASS DOUBLE-CURRENT RECTAL IRRIGATOR.

By Robert Coleman Kemp. M.D.,

New York,

Surgeon to the Church Infirmary and Dispensary.

In Pediatrics, January 15 1896, was described a double current hard rubber rectal irrigator devised by me. The openings, both for the entering and return current, were at the side of the instrument. In the new model, as is seen in the plate, the central tube screws directly into the tip of the instrument and opens into the bowel at this point. There are



two lateral openings for the return current. The length of the instrument is five inches. If a large amount of water is to be sent into the bowel the central tube should be used for the entering current; if otherwise let the entering current pass through the lateral openings, and the return will be almost immediate. The soft carry-off tube should be attached as before, and by pinching it, the quantity can be regulated. The second plate shows the glass irrigator. It has an opening above the carry-off tube for cleansing purposes. This is closed by a cork. In some of the glass tubes there is no such opening, and in these the entering current should pass into the bowel laterally.

The soft rubber tubes, with metal or hard rubber centres, are now made on the same principle. They can be secured from Reynders, Twenty-third street and Fourth avenue, or from M. J. Breitenbach, 571 Madison avenue.

HYGIENE OF CHILDHOOD: EXERCISE.

By John Specht, M.D.,
Superior, Wis.

CHILDHOOD is much neglected in its physical development at the present time, and as we progress more and more in our civilization, and, like the gregarious creatures that we are, when we congregate more and more in the centers of population, the cities, where sweat-shop and factory, where crowded tenements and offices, where poorly ventilated stores and crowded schools, and where all the many bad environments of the growing child are most conspicuous, it is not a wonder, with all these surroundings and conditions to contend with, that childhood should grow up as it does. It is a sad picture, and it is not astonishing that the child thus brought up should be an easy prey to consumption and other infectious diseases; and if the child lives to grow up to manhood it is not a man with a robust constitution and vigorous health, but a species of man called in common parlance "the dude," with all his mental and physical frailties. Most children can withstand the evil effects of close confinement and life indoors for a short time, or even years, without any visible injury, but if continued long enough there comes a certain degree of impairment in the constitution which offers a ready soil for the reception of diseases, and they are carried off in the early years of life, victims to the many bad features of our modern civilization—for the civilization of today is far different from the civilization of fifty years ago. Look at the many inventions of today, more and more of machinery and factories, and you will find a vast population, including many children, who labor and spend their lives indoors. It is not only the lack of outdoor exercise, but when you come to add to this other evils, matters are made many times worse. For example, in treating a number of attendants at the high school my attention was called some time ago to the reprehensible system they have in the city of Superior. In the city high school they have but one session during the day, commencing at 8:30 o'clock in the morning and continuing until 2 o'clock in the afternoon. They have an intermission of twenty minutes at noon to give the children an opportunity to eat the cold lunches they have brought with them, and the children—who can blame them—tell me that instead of taking the whole twenty minutes in which to eat their cold lunches, take but a few minutes to bolt a few mouthfulls of some pastry or sweetmeats, that they have the remainder of the twenty minutes for play. I was not surprised when I found many of them suffering from indigestion and anemia; and when the principal of one of the schools consulted me for a disordered stomach, I asked him if the session could not be abridged so that they could all go home, and get, at the proper time, what was most needed, a warm meal. The principal thought the session could be altered so they could do so, but I see they still continue to carry their cold lunches and disordered stomachs when they might have healthy stomachs and healthy digestion.

Physical development and mental development go hand in hand; you cannot have a vigorous mind without a vigorous body. In our public schools the physical development and education of our children should be attended to as well or even better than the mental. Our leading colleges and universities recognize this more and more, and why should not our public schools be just as wisely conducted? There should be in connection with the public schools in every city or town of any importance a gymnasium, where boys and girls, under a director, will get, once or twice a week at least, a variety of interesting exercises; for exercise, like study, to be of benefit must be made interesting and attractive. In a properly constructed gymnasium, with the various appliances for exercising all the different muscles, under the guidance of a proper director, our schools would turn out such an athletic set of young women and men as would make us proud of their physical symmetry and health as well as their mental capacity and education. The people all over this land are arousing themselves and taking more and more interest in this subject; but let us, as physicians, kindle the faint interest now burning into a bright flame of enthusiasm that will soon establish one of the greatest necessities of our public schools, the gymnasium. The people as yet have not the right idea of what our schools should be when they train one great organ, the brain, at the expense of weakening all the other organs of the body. Our schools should be an institution in which all the organs and muscles of the body should be equally developed and trained, and in case there is any defect of mind or of muscle, that weak part must be more especially trained and developed. The system of education would then be adapted to each individual according to his needs, instead of the one system for all which now prevails. The athletic Sandow says the training and exercise of a child should be commenced as soon as it is able to walk, by carrying and using articles that are very gradually increased in weight. This is true. We cannot commence too early to look after the proper muscular exercises of our children. Many parents are too busy to look after either the mental or muscular development of their children, and are getting into the habit of leaving it all to the public schools. The schools look after the mental development well enough, probably a little too well, but the muscular, alas! it is almost completely ignored. What is exercise? If we look into the dictionary we find that exercise is the exertion or action of the body for the sake of keeping its organs and functions in a healthy state, hygienic activity. If that is exercise, why do we not heed the necessity for it more than we do? See the manifold benefits of exercise: it conduces to health, happiness, longevity, prevention of diseases, and the cure of diseases and deformities. Can I pay a better tribute to exercise than to name these peculiar qualities of our existence and as they are influenced by exercise. Health and happiness: What is the world without health and happiness? Physicians know, and we also know, that if we build up a good constitution by exercise while we are young, it will stand by us and carry us through long years of artificial and sedentary life, thereby promoting longevity. In the prevention of disease, exercise plays an important part. We are made up of many microscopic cells; the energy of each cell is represented by the energy of the body as a whole. You can now plainly see that the energy of each cell depends upon exercise, and when a child comes in contact with the poisonous germs of infectious diseases there ensues a battle of life and death, the vital energy of the cell on the one side and the infectiousness of the bacterium on the other. If the cell is victorious, the bacterium is destroyed before it has had time to injure the child. If the cell is conquered there is no further obstruction to the proliferation and spread of the bacterium of the body. You have all, no doubt, read Metchnikoff's description in Ziemssen's article of the fight of our little life cells against the various bacteria. I wish to bring it before you again. He says: "The function of resistance inheres in the so-called glutton cells or phagocytes, which are recruited from leucocytes and fixed connective tissue cells. They appear upon the battle field with the irritation induced by the invasion of the bacilli; they proceed at once to devour the invaders, that is, they receive them into their parenchyma and digest them or make them incapable of proliferation. The phagocytes are divided into two groups, the large and small (macrophagi and microphagi). The former include the epithelioidal cells of the connective tissues, etc., the other the lobulated nucleated leucocytes. Both forms, according to Metchnikoff, play different parts in different infectious diseases. According to the latest publication, the streptococci of erysipelas, for example, are swallowed by microphagi, these in turn are ingested by the parenchyma of the macrophagi and digested. Gonococci are eaten by microphagi, while the bacilli of anthrax in rabbits and guinea-pigs are only ingested by macrophagi. In the bacilli of tuberculosis both forms of phagocytes take part in resisting the invasion.

"So you see that the immigration of bacilli into a perfectly healthy child is checked at once and made innocuous; but in a predisposed child, with their life cells weak, and lacking energy, the virulence of the bacilli, while not entirely destroyed, is rendered innocent of harm for the time being by encapsulation in the fixed connective tissue cells; but when they enter weak organs in large numbers, they overcome all opposition and soon destroy the child." To this little story I add a moral, and the moral might read: Keep your life cells active and strong by exercise. In regard to the cure of diseases and deformities I will not go into detail, as this would make a book of many pages.

We all know of many diseases of a chronic nature that have been cured by exercise, and we likewise know of many deformites cured by exercise, especially in childhood, when such deformities are most easily corrected.

INCONTINENCE OF URINE IN CHILDREN.

By S. M. Ward, M.D.,

Hampton, N.H.

THE vesical sphincter becomes fully developed during the closing month of the second year of life, so that urinary incontinence occuring prior to this age does not constitute an abnormality. This infantile condition may persist throughout life or there may be a reversion thereto caused by a profound impression on the economy as in diphtheria or typhoid fever.

The phenomenon of micturition as it normally occurs is a complex process. First, the sensory nerves of the mucous membrane of the bladder, being stimulated by the urine, transmit an impulse to the urinary center in the cord and also to the sensorium. The brain immediately inhibits the contractile power of the sphincter of the bladder and stimulates the detrusor which receives a like impetus directly from the bladder. The brain also stimulates the abdominal muscles to contract.

It will be readily seen that a variety of causes may produce urinary incontinence—failure of the sensory nerves to receive or to transmit an impulse, failure of the urinary center to receive or transmit it, and cerebral incompetence either to receive the stimulus, to translate it correctly, or failure to transmit an inhibitory action to the sphincter or the opposite to the detrusor.

Cases of enuresis are about equally divided between the sexes, though my experience has been that diurnal incontinence is more frequent in girls and nocturnal in boys. My opinion is that nearly all case of urinary incontinence, omitting structural anomalies and injuries involving the nervous system, are due to some neurotic difficulty, causing paresis of the vesical sphincter—an elongated prepuce, pressure on the bladder through the rectum by hardened feces, worms, strongly acid urine, masturbation (Jacobi) and, according to Groenbeck, adenoid growths in the naso-pharynx.

In the treatment of incontinence of urine I depart from the plan usually pursued. As stone is rare, I advocate medicinal measures before exploring the bladder with a sound. We are often consulted by anxious mothers to cure her child of "wetting the bed." As before stated, I believe it is better, unless the symptoms point unmistakably to stone, to defer sounding until the medicinal measures have been tried. If the patient is a boy an elongated prepuce and masturbation must be considered as possible causes. If either a girl or boy, anemia, constipation, worms, adenoids, acid urine and other abnormalities should be corrected if present.

Liquids should be taken sparingly, and the child should urinate the last thing before retiring and again during the night if awake. Give to a child three years old, four times daily, a teaspoonful of the following:

℞	Extr. rhus aromat. fl.,	ʒ iiss;
	Extr. ergot fl.,	℥ ss;
	Extr. belladonnæ fl.,	ʒ ss;
	Strychnin sulph.,	gr. ¼;
	Syr. aurant. cort.,	q.s., ℥ iv.

M. Sig. Teaspoonful four (4) times daily.

The quantity of belladonna may be increased and if this fails after a fair trial, increasing doses of atropia may be used.

Diurnal incontinence needs a different medicinal treatment, and though relying on the rhus, I add the bromides of potassium and sodium.

℞	Extr. rhus aromat. fl.,	ʒ ss;
	Extr. ergot fl.,	ʒ vi;
	Extr. belladonnæ fl.,	ʒ ss;

Potas. brom., ʒ iiss;
Sod. brom., ʒ iiss;
Strychnin sulph., gr. $\frac{1}{3}$;
Syr. auranta cort., ad ℥ iv.

M. Sig. Teaspoonful for a child five to six years old.

After a faithful trial of this, increasing the doses of ergot and of the bromides, I would recommend the following powders:

℞ Antifebrin, gr. i;
Sodii brom., gr. x.
M. Ft. Chart No. i (1).
Sig. Take four (4) powders in a day.

THE NEW VACCINE VIRUS IN LIQUID FORM PREPARED IN THE LABORATORIES OF THE NEW YORK HEALTH DEPARTMENT.

EARLY in 1895 the vaccine laboratory of the Health Department was attached to the Division of Pathology and Bacteriology, and a detailed experimental investigation into all the methods employed in various parts of the world for the production and preservation of vaccine virus was immediately begun and has been continued to the present time. The choice and care of animals, the places, methods and virus most suitable for inoculation into the animals, the time and manner of collection, and the preparation and preservation of virus after collection have all been subjects of study. In addition the most notable vaccine laboratories in Europe and this country have been visited and their practice studied.

In consequence of the investigations numerous modifications in the methods have been made, but the most important is the entire change in the form of the vaccine virus issued and recommended for use. Formerly the virus employed was the serum which issued from the base of a vaccine pock, dried on quills or ivory points. To determine the most valuable part of a vaccine vesicle the following experiment was made. A typical vesicle was chosen and the crust, the underlying pulp and base, and the serum exuding after the former were removed, were collected separately. Each was mixed with glycerine in the proportion of sixty per cent. vaccine matter, and forty per cent. glycerine, then thoroughly comminuted in a mortar, and the products used in the multiple vaccination of children. The pulp showed by far the best, the crust the next and the serum the poorest results, as determined by the percentage of successful vaccinations. Other similar experiments confirmed these results, and it was concluded that the largest proportion of the active virus is contained in the pulp. Therefore the virus now issued is in the form of a glycerinated vaccine pulp. The function of the glycerine is to produce a homogeneous mixture and to act as a safe antiseptic against germs accidentally introduced.

Although led by its own observations to adopt the liquid form of virus, the Health Department, in supplying such vaccine, is only following the example of all the best German, French and other Continental vaccine laboratories; and it is believed that no other virus is more fully tested before being issued than that prepared in the laboratory of the New York City Health Department. The greatest care is taken to insure cleanliness in the production and preservation of the virus; all instruments and receptacles are sterilized and the operations of inoculation and collection made as nearly aseptic as possible.

Before using the virus derived from an animal, first the animal from which it was obtained is sent to autopsy and the organs are examined for any evidences of disease; second two samples of the virus are given, one to the bacteriologist and the other to the medical tester of virus, and no virus is issued unless the reports of the pathologist, bacteriologist and clinical tester are all satisfactory. The clinical tests consist in the inoculation of the virus after scarification in three places on each of five children who have never been previously vaccinated. There is thus a case test of five and an insertion test of fifteen points. The results from the new method with this rigid system of tests are shown in the records of the last three months. Since July 1st, 1896, there have been vaccinated in the routine way thirty calves from which virus has been collected and tested as above described. All this virus gave one hundred per cent case and one hundred per cent insertion success at the original test, and the same percentages of success at the last retest made about October 1, 1896. There can therefore be no doubt that the durability of the virus is assured for at least three months from the date of collection.

Worthy of note is the fact that in all the primary vaccinations made during September and October by the Department vaccinations in which the results are known, more than seven hundred in number, there was not a single failure.

The virus is a syrupy, opaque, brown emulsion of uniform consistency. It is put up in convenient capillary tubes, containing each enough for a single vaccination and in vials of two sizes, one containing one fifth of a cubic centimeter for ten vaccinations, and the other containing one cubic centimeter for fifty vaccinations.

In using the new virus the skin is scarified in the usual way, and a drop of the liquid virus (discharged from a capillary tube by blowing out the contents with a rubber tube furnished to facilitate this process) is then thoroughly rubbed into the scarified area with a slip of wood, which accompanies each tube. The new virus, like the other products of the Health Department Laboratories, is furnished free to all public institutions in the city on application. Physicians can obtain the virus at many drug stores, or on application directly to the Health Department. The retail price of the capillary tubes is ten cents each.

PRACTICAL NOTES.

Ringworm.—Alfred Salter treated forty cases of ringworm of the scalp at Guy's Hospital by means of formic aldehyde. The fluid was vigorously rubbed in with a largish brush or mop for ten minutes, the hair having been shaved round the margin of the patches. The application was repeated every other day on four occasions and then entirely discontinued. In some patients the head was painted every day for four successive days. Of the forty cases only four required repainting from non-eradication of the disease, and in these the fault lay not with the remedy, but in the fact that, owing to the struggles of the child, no proper application could be made. The ages of the children treated ranged from four to twelve, and the extent of the disease varied from a small, strictly-localized patch to areas which were practically co-extensive with the whole scalp. Microscopical examination was always made before commencing the treatment and the actual presence of the trichophyton verified, while before pronouncing any case cured, microscopical examination was again made. In thirty-eight of the cases the fungus presented the characters of the trichophyton microsporon. Formalin thus applied induces discomfort and irritation of very brief duration rather than actual pain, and does not vesicate the scalp as it does the skin elsewhere. Only three cases showed any suppuration after its use, and in these the process was slight and did not destroy any of the follicles. It produces, however, a thick crust, just as weaker solutions cause desquamation upon the skin of the arm, and the subsequent application of some emollient is advisable to accelerate the removal of this exudation. Growth of healthy hair commences immediately, and in three or four weeks the denuded patch is covered with hair one-sixth inch long. In six cases edema of the face was noted some hours after painting. In one boy this was so extensive as to completely prevent vision from swelling of the eyelids, and the forehead pitted one-half inch on pressure. The skin, however, was neither hot nor red, and there was no pain nor constitutional disturbance. The edema only occurred when the area treated was very large, and the condition is probably analogous to that produced by a nettle-sting on a large scale. It is interesting in this connection to remember that the active toxic agent in the nettle is formic acid, and that it is thus closely related to the substance under discussion. The occurrence of the edema renders it advisable either to deal with limited areas at a time or to warn the parents of the possible result if the whole scalp is to be attempted at once.—*Brit. Med. Journ.*

H. B. Sheffield, of New York, treated an epidemic of chronic ringworm of the scalp occurring at the Hebrew Sheltering Guardian Society Orphan Asylum by means of the following combination, curing some 370 cases in about four weeks: ℞ Acidi carbol., olei petrolei crudi, aa 2 ounces (62 grammes); tr. iodini, olei ricini, aa 3½ ounces (108 grammes); olei rusci (German), q. s. ad 1 pint (500 grammes). M. Sig.: Apply over entire scalp once a day for four successive days; wash off thoroughly with green soap on the sixth day; then clip the hair close to the scalp and wash again as before. Repeat this course of treatment regularly for three successive weeks. After four weeks careful microscopical examination of the greater number of the cases no longer revealed the presence of the trichophyton fungus. To relieve the slight eczematous eruption, which was still present, he ordered the application once a day, of the following mixture: ℞ Resorcini, acidi salicylici, aa 4 drachms (16 grammes); alcoholis, 4 fluid ounces (125 grammes), olei ricini, q. s. ad 1 pint (500 grammes). This was well rubbed into the scalp. After about two weeks the hair began to grow upon the bald spots, and no relapse of the disease followed.—*American Medico-Surgical Bulletin, Univers. M. J., 1896, x, 314.*

Milk Exhibition in Paris.—Another beverage, at times as dangerous if not more so than alcohol, is just now attracting official attention. We refer to milk—that has not unfrequently been the direct cause of typhoid fever, cholera, and tuberculosis; and as several children, whose ages vary from eight to thirteen years are now under treatment in the hospitals of Paris for confirmed alcoholism, it would be interesting to know exactly how many began to acquire the habit unconsciously at the breast of an alcoholic mother or nurse. There has been so much adulteration of milk and so much consequent falling off from the standard, that it has become urgent for the public to know where that nourishment, so indispensable to infants and children generally, to which also many adults are obliged to resort, can be best obtained fresh, pure, and unadulterated. Some of our most distinguished physicians and professors have, therefore, decided to organize a competitive exposition of milk—a concours de laiterie francaise—to which milk and dairy men and women near Paris, and those keeping cow stables, also milk venders in the city, are invited to send their wares. The jury will be composed exclusively of physicians, pharmacists and veterinarians. A committee of patrons is to be appointed, consisting of deputies, municipal councilmen of the Seine, and the presidents of the syndical chambers of alimentation. Prizes, such as bronze works of art, pieces of silver, etc., will be given to those furnishing the best specimens of lacteal fluid. Manufacturers of milk apparatus of all kinds are also invited to take part in the concourse. No doubt the very best and purest milk will be exhibited, but will it guarantee to the consumer that the milk furnished every day throughout the year is up to the exhibition standard as an article of nutriment, leaving septic germs and sterilization out of the question? At any rate, the concours will undoubtedly be productive of much good as regards the sale of adulterated milk, and not without beneficial influence on public health and hygiene.—Paris Letter in *Med. Rec.*

The Anti-diphtheritic Property of Human Milk.—Drs. Schmidt and Pflanz in the *Klinische Wochenschrift* report the results of experiments made to determine the anti-diphtheritic properties of human milk. The antitoxins of the milk pass into the digestive tract of the suckling child and thence into its circulation, without undergoing any change. It is generally recognized that suckling children rarely suffer from diphtheria. The blood-serum from the placenta, after the severance of the cord, was also examined for purposes of comparison. The antitoxins contained in the blood of a lying-in woman are less in quantity than those in the milk.—*Med. News.*

Editorial Comments.

THE serum or antitoxin treatment of pharyngeal and laryngeal diphtheria has taken an unassailable place in the therapeutics of this disease, and we look now naturally for reports of its utility in the treatment of diphtheria manifesting itself by the deposition of membranous formations in other parts of the body, such as the conjunctiva. Very recently some statements worthy of note have been made anent such conditions by Greef. He treated, after this method fifty-two cases of genuine conjunctival diphtheria, with the very gratifying result of seeing thirty-seven of these cases recover. In only two did death result. This is a percentage that has scarcely been equaled. Naturally in conjunctival pseudo-diphtheria the serum treatment is of no use, but it is a matter of importance to bear in mind that the author avers that such treatment does no harm, particularly when we recall that Guttmann claimed that a greater proportion of cases of diphtheria were followed by polyneuritis when subjected to antitoxin treatment than when treated in other ways. Greef was unable to draw any conclusions as to the effect of the serum treatment on the course of the paralysis that so often follows diphtheria on account of the relatively small number of his cases. He does say, however, that he has not noticed the more frequent occurrence of neuritis in cases that have been treated with serum. We expect to be able to publish within a few months a report on a large number of cases of diphtheria to show that the antitoxin treatment instead of conducing to the occurrence of multiple neuritis not only does the opposite but has a most benign influence upon this condition when symptoms of neuritis appear early in the disease.

In this country at least tetany is not a common condition. We believe, however, that its occurrence is more frequent than the scant literature of the subject would lead one to believe. This is so, because, in all probability, a number of cases in which the symptoms are comparatively slight go unrecognized, while others are diagnosed as "fits" or "spasms." The nature of tetany is still a matter of active dispute, the most universally accepted view of its causation being that it is a neural or neuro-muscular manifestation of some hemic poison of endogenous or exogenous origin. Comparatively few writers have subscribed to the views of Kassowitz and others that it is a cerebral manifestation of rhachitis, analogous to laryngismus stridulus, for it is believed that such a view is opposed not only by experience but by the tenets of modern pathogenesis. It seems to be very probable that the toxic substance that causes the symptom tetany is absorbed from the stomach and that it is formed as the result of functional derangement of that organ or of organic disease. It is a well-known fact that the most fatal form of the disease is associated with a peculiar destructive process in the walls of the stomach. Added to this there may be some special vulnerability of the nervous system analogous to that existing when chorea develops from some humoral poisoning. Oddo has recently asserted that the contention of many German writers that laryngeal spasm is pathognomic of tetany is a fallacy. It may occur just the same as spasm of the ocular muscles and stiffness of the muscles of the neck occur, but it is no more pathognomic of this condition than the latter are of meningitis.

In the treatment of tetany this writer does not suggest anything new, but basing his therapeutic suggestions on the modern conception of the disease he recommends the removal of the toxic factors by means of stomachic and intestinal lavage; and at the same time he administers substances that contribute to a condition of the intestines that is at least inimical to fermentation and putrefaction, such as small doses of calomel and benzo-napthol in one-half grain doses five or six times a day. If there be any indication for the use of vermifuges they should be given. The peccant activities of the poison on the neuro-muscular system are counteracted by the administration of bromide of strontium and choral. In our estimation bromide of strontium has no superiority over any of the other bromide salts, and the chloral is the most efficacious factor in the combination. We are glad to note that this author recommends the use of chloroform to cut short the tetanic condition when it becomes very severe.

We have never been quite able to understand why the use of chloroform to abbreviate all sorts of convulsive attacks, eclampsia of the infant, of the adult, genuine epileptic attacks, hysterical and toxic convulsive attacks and even epileptiform convulsions dependent upon organic diseases of the brain has not become more universal. It has three virtues that must commend it to every thinking practitioner, it does the work, it does it quickly and promptly, it is practically devoid of danger, and its use is not attended with distressing or malign after-effects. Why time should be wasted when one is called to a child or an adult in convulsions of an eclamptic nature, by putting them in a warm bath, or giving a rectal injection of chloral and bromide or doing a half score of other things that have nothing to commend them except a halo of tradition and the consecration of inherited usage, is difficult to comprehend. An eclamptic attack, it matters not whether it be a manifestation of genuine epilepsy or not is an evidence of the diminution in the potentiality of those structures one function of which is to subserve motivity, and a perversion of the dynamics of these parts. One attack of such eclampsia contributes to another just as the pathway of a man through a forest contributes to the ease with which he orients himself on a second visit to the same wilderness. It behooves us therefore to cut short every attack of this kind without ceremony, and the best way to do this is by the inhalations of chloroform, not necessarily up to the point of complete chloroformation, but enough should be given to control the severity of the spasms. After that is the time to give bromides, chloral, et cetera.

* * *

It would seem to be rather definitely settled that the child in utero does not communicate disease to the mother but the number of diseases that the mother may communicate to the child apparently gets greater as we devote more attention to the subject. It is of considerable importance to make a close study of these cases because they may possibly contribute somewhat to an understanding of many defects that are now called protal, as well as further our understanding of the laws of immunity and susceptibility. A German writer, Durk, has recently reported from Heubner's clinic a very instructive and conclusive case. A young woman in the fourth week of typhoid fever gave birth to a well developed foetus which lived for twelve hours. Post-mortem examination showed yellow, jaundiced skin, distension of the abdomen, enlargement of the liver and spleen, with slight subcapsular hemorrhage in the former and congestion of the intestinal mucous membrane. The Pyerian patches and the solitary glands were not enlarged. Cultivations made of tissue from the liver and spleen revealed the typhoid bacillus as well as the staphylococcus pyogenes albus. The case was therefore not a genuine example of typhoid fever, as that disease is usually understood, but one of hemic infection by the typhoid bacillus with secondary infection of the important blood elaborating organs. The case demonstrates very clearly that the placenta offers no insuperable barrier to the passage of specific micro-organisms and also shows the way that intra-uterine infection takes place.

The fact that the lymphoid substance of the intestines was not involved, although the bacilli must have tenanted the blood for a considerable time judging from their results on the liver and spleen, is rather suggestive that possibly the early involvement of the Pyerian patches in typhoid fever may be associated with certain conditions attending their functioning. On the other hand it suggests that possibly in our study of typhoid fever we have fastened our attention too closely upon the intestinal lesions, because they are strikingly apparent after death and because prominent symptoms are associated with them clinically.

Every one recognizes the fact that whooping-cough is a contemptible sort of a disease, and it would be difficult to single out a disease that has a more ungracious reputation. Instead of outliving its reputation as some diseases, like their possessors do, it seems to get more and more deserving of opprobrium. Nearly a decade ago Möbius described the history of a patient who developed a parpalegia in the course of an attack of pertussis, and now Bernhardt, of Berlin, describes a similar case which occurred in a girl five years old. The paralysis of the lower extremities was accomplished with pronounced increase of myotatic irritability in the lower extremities and bladder disturbances. After a few weeks the child had nearly recovered, when a double parotitis developed, and with it an aggravation of the symptoms dependent upon the spinal cord lesion.

Eventually, however, very nearly complete recovery followed. In the few cases of this kind that have come to autopsy there have been found hemorrhages either in the substance of the cord or in the membranes, and Bernhardt assumes that a similar condition occurred in his case. Granting that his case was one of organic disease of the spinal cord, and the fact that almost complete recovery occurred, does not mititate against such a concession, the question arises whether the lesion of the cord was due to mechanically produced punctate hemorrhages, or whether they were the expression of an acute infection similar to that which we know to exist in acute hemorrhagic encephalitis and which often goes on to recovery.

We know that such hemorrhagic encephalitis occurs after influenza, and there are writers who claim its occurrence after whooping-cough, and if they are correct, it would seem to be quite rational to assume that the same kind of changes may go on the cord as in the brain.

This does not of course preclude the possibility that lesions of the spinal cord of vascular nature may not occur at the height of a paroxysm of whooping-cough, in all probability they do, but at the same time the latter does not explain every case of spinal cord affection that follows in the course and wake of pertussis, and it is in keeping with recent advances in the knowledge of the pathology of acute hemorrhagic encephalitis, to posit some such lesicn as that which constitutes the basis of hemorrhagic encephalitis for the parpalegic conditions that occasionally are sequela of whooping-cough.

Society Report.

NEW YORK ACADEMY OF MEDICINE.—SECTION ON PEDIATRICS.

Stated Meeting, November 12, 1896.

Club-feet with Absence of Toes and Fingers, and with Constriction Bands of Leg and Finger.—Dr. Le Roy W. Hubbard exhibited a little boy with this condition. He said that he did not think the mark around the leg was due to pressure of the cord, for such pressure would probably have caused gangrene of the foot, or interference with the circulation in the cord itself. It was probable that an amniotic band, similar to that which had caused the amputation of the toes and the constriction around the second finger of the left hand, had produced the sulcus on the leg.

An Epidemic of Glandular Fever.—Dr. J. P. West, of Belaire, Ohio, read a paper on this subject. He said that the epidemic had occurred chiefly in the practice of a physician in his vicinity. There had been 96 cases in 43 families. The epidemic lasted from the Spring of 1893 to the Spring of 1896. The following case might be considered fairly illustrative of the symptomatology: The patient was a robust girl, ten years of age, who when first seen, on the fourth day of her illness, had a muddy skin, and appeared quite sick. Anorexia, constipation, general malaise and a slight difficulty in respiration were present, but there was no cough. The temperature was 102° F., and the pulse 120 in a minute. Extending downward and forward from the angle of the jaw on either side was a distinct, smooth swelling, consisting of a chain of four lymphatic glands. The swelling was more marked on the left side. Inspection showed the throat, mouth and nose to be normal. The next day the temperature was 103°. All the symptoms were aggravated, and there was now some dysphagia. There was also tenderness in the abdomen, and enlargement of the liver. Two days later the temperature had fallen to 99°, after a diarrhea, and the patient felt much better. She slowly improved after this, and eighteen days from the time she was first taken sick she was perfectly well again.

The youngest child who contracted the disease was seven months old, and the oldest thirteen years old, although there were both older and younger children exposed to the disease. The average duration was sixteen days, and the period of most active symptoms was about seven days. In no case was there suppuration of the glands, and no enlargement or induration remained. There were no sequela or second attacks. There was only one death, and that was in a young and feeble child. Constipation was present in the cases of longer duration, and diarrhea in the shorter and more acute cases. Calomel was given in a few instances with a view to hastening the crisis, but it seemed to serve only to increase the prostration. In 87 of the cases the liver was enlarged, and in 53 there was enlargement of the spleen. The urine was usually scanty and high colored, but the examinations of the urine showed only an excess of urates. All the children old enough to make complaint spoke particularly of a choking sensation in the throat. There was always enlargement of the deep cervical glands It usually began on the left side, reached its height in from two to four days, and then began on the right side. It was very rarely confined to one side. The glandular swelling always appeared smooth to the eye, but on palpation the individual glands could be detected. In three-fourths of the cases enlargement of the posterior cervical axillary or inguinal glands was present. In 37 of the cases the mesenteric glands could be felt to be enlarged. No cases occurred in the summer months. The period of incubation could not be stated positively, but most of the children developed the symptoms of the disease seven days after exposure.

Speaking of the diagnosis, the reader of the paper said that various authorities had considered the other diseases with which glandular fever might be confounded, with the exception of mumps. In the present epidemic there had been no involvement of the parotid gland, and no case of mumps had occurred during the epidemic. Fifty-seven of the children affected with this glandular fever had, or had since had, mumps. Nearly one-third of the cases occurred under three years of age, an age at which mumps is very uncommon. The first families affected lived far apart, were not acquainted, and had not had any communication with one another. Dr. West said that nothing of moment had been added to our knowledge of glandular fever since Pfeiffer's description of it in 1887. It would seem that the source of the poison was not the same in all cases. It was probable that many cases called febricula and influenza were really examples of glandular fever.

Dr. August Seibert said that he had himself published two articles on glandular fever, and had had some correspondence with Pfeiffer about it. He exhibited a temperature chart of one of the cases that had come under his observation a few years ago. The child had been sick for a week with what had been diagnosticated as meningitis. There were opisthotonus and headache, and a history of a chill and diarrhea. The posterior lymph nodes on the right side of the neck were swollen and hard. For four weeks the temperature rose nearly every evening to 104°, and usually fell in the morning to 99° or 100°. Quinine had not the slightest effect on the temperature, and this, together with the absence of splenic enlargement, would exclude malaria. The boy was sick altogether for six weeks. The treatment had consisted in the use of an ice-bag, and in the administration occasionally of antipyrin or phenacetin. He had seen not more than 24 cases of glandular fever in the past five years. Of this number only one had died—a child who had done well for two days, and then, within a few hours after the involvement of the other side of the neck, had become cyanotic, and had died evidently from compression of the pneumogastric nerve. He had seen a few cases in which the diagnosis of meningitis had been made because of the opisthotonus and the pain in the scalp radiating down into the shoulder. It should be remembered that there is never an exudate in the throat or a tonsillitis, and that the disease is always unilaterial at the beginning, and occasionally remains so. The lymph nodes are all exceedingly hard and intensely painful. He had never seen edema of the surrounding tissue or suppuration—two very important points in connection with the diagnosis.

Dr. Henry Koplik said that he had been on the lookout for this disease ever since the publication of Pfeiffer's article, yet although he saw an enormous number of cases of lymphatic enlargements, he had never seen a case which seemed to him to answer that description. This was probably because the disease is an epidemic one. To him the etiology was especially interesting. Of course, there could be no such thing as an idiopathic affection of the lymph nodes, so that although the term "glandular fever" might be as convenient as any in the present state of our knowledge, it did not clearly describe the condition. It had occurred to him while listening to Dr. West's paper that the affection of the lymph nodes might be due to an infection from the gut. This view found some support from the fact that in most cases the glandular enlargement began on the left side, near the thoracic duct. The absence of suppuration would indicate that the infection was non-septic.

Dr. Floyd M. Crandall said that there was undoubtedly a number of unclassified affections quite frequently met with, and hence the clear description given in the paper rendered this contribution to our knowledge a valuable one. The disease was certainly not of common occurrence, but the description given made it clear that the disease had a distinct individuality.

Dr. R. G. Freeman said that in dispensary practice one not infrequently met with cases of glandular enlargement which could not be satisfactorily classified. He did not think the name "glandular fever" was particularly applicable, for, so far as known, the disease did not attack the glands at all, but was a disease of the lymph nodes.

The Mode of Examining Sick Children so as to Promote Greater Accuracy in Diagnosis.—Dr. J. Lewis Smith presented a paper with this title, but read only a portion of it. He said that the physician who expected to succeed in the treatment of the diseases of children must be prepared to spend considerable time in making his visits. He should enter the nursery quietly, and inspect the child from a distance, while endeavoring to obtain from the mother or nurse a detailed history of the onset of the illness. The prescription paper and the percussion hammer had often served him well as means of amusing and attracting the attention of little patients. In an emotional child a little fright may serve to cause a sudden though transient elevation of the temperature. The speaker exhibited a temperature chart showing the elevations of temperature—some as high as 104° or 105°—which occurred in a healthy but excitable child as a result of slamming the door, or the sudden entrance of a person into the room. He had found in feeble and ill-nourished foundlings that a marked and persistent fall in the temperature below the normal almost always indicated the approach of death. In emaciated infants who have long been sick, the brain also wastes and the fontanelles become depressed. Where the cause of an acute illness in a child does not seem at first apparent, it is always well to make a thorough examination of the throat. He had known spinal irritation to be mistaken for chronic indigestion, gastro-intestinal catarrh and subacute pleurisy. Regarding typhoid fever, he said that he knew that this disease was not uncommon among children in this city, although often falsely reported as malaria. The disease was often so mild in children that they did not go to bed, and present symptoms not unlike those of malaria. It would be found, however, that the fever would not yield at all to quinine. He had known a nurse, shortly after taking care of two children sick with these mild symptoms, to be taken down with a severe and typical typhoid fever. He had known typhoid fever occur in children only two years old.

Dr. JOSEPH E. WINTERS said that time, patience and care, rather than skill, were the elements necessary to make an accurate diagnosis in the diseases of children—or, at least, to exclude any serious disorder. He did not think that it was more difficult to make a diagnosis in children than in adults, for the reason that adults were apt to lead the physician astray by giving undue prominence to the subjective phenomena. In the young child, on the other hand, we listened entirely to the voice of nature, and to just that extent was our diagnosis more likely to be accurate. The statements made in the paper regarding the sudden elevation of the temperature that might follow sudden emotion were sufficient in themselves to emphasize the necessity for taking plenty of time for the examination. In his opinion there had been many deaths caused in this city, both in children and adults, from the needless use of the new antipyretics. A few years ago more deaths were caused in pneumonia from the use of these drugs than from the disease itself.

Dr. CRANDALL said that the children commonly met with might be conveniently divided into four classes, viz.: (1) The good children, who would submit readily to almost any examination, and in whom it was easy to make a diagnosis; (2) the older children who rather enjoyed the examination, and who were exceedingly apt to lead the physician astray if he should happen to ask a leading question; (3) the timid children, who would tax the physician's patience and skill to the utmost; and (4) the ugly children, who could be best managed by a quick, prompt and decided manner of making the examination. We should learn to make the diagnosis while a child is crying, because it is often impossible to examine a child when it is not crying. It was also well to make it a rule in all cases of fever, or of doubtful diagnosis, to carefully examine the whole surface of the child's body. Recently he had been much puzzled in the case of a child who appeared to be quite sick, and yet in whom he could not find sufficient reason for the symptoms. He thought he had examined all of the body surface, but when the child had reached home the mother had discovered a patch of erysipelas on the ankle, which had been concealed by the stocking. We should always very carefully examine the throat and chest. Children are naturally good imitators, and hence, the older ones would be apt to mislead the physician by appearing to have all sorts of diseases which really do not exist. There were many hysterical and nervous children who might easily deceive even the experienced physician.

Dr. Louis Fischer said that he thought it was a simple matter to differentiate between malaria and typhoid fever in children. This could be done by an examination of the blood for the malaria plasmodium. In his opinion more skill was necessary in examining a child than an adult. He recalled a case in which a child had an elevated temperature for many weeks, and in which several physicians had been baffled, until a lumbar abscess had been discovered. So far, no allusion had been made to the importance of examining the urine of children.

Dr. J. Milton Mabbott said that he was familiar with the temperature chart of the emotional child referred to in the paper, and he hoped Dr. Smith would publish not only the fluctuations of the temperature, but the rapidity of those fluctuations. As many children were often frightened by the presence of the physician, and would in consequence experience a rise of temperature, it was sometimes wise to cut short a visit. It should be remembered also that more than one disease might be present at a time.

Dr. William L. Stowell said that in examining a young infant it was often desirable to have the child placed over the mother's shoulder so that it did not face the physician. In examining the throat of a refractory child, the physician should grasp the child by the back of the neck, and then use a narrow tongue-depressor. The urine of children should certainly be examined more frequently than is the custom, and the best way to secure the urine is by the passage of a very small silver catheter.

Dr. SMITH, in closing the discussion, said that in cases of scarlet fever and diphtheria, he thought, the physician should stand behind the child in examining the throat, so as to give no opportunity for the secretions to be coughed into his face or on to his clothing.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY OF LONDON.

Stated Meeting, October 27, 1896.

A Condition of Mixed Premature and Immature Development.—Mr. Hastings Gilford communicated a paper under the above title. The affection to which he referred was first described by Mr. Jonathan Hutchinson in 1886 in a paper entitled "Congenital Absence of Hair and Mammary Glands, with Atrophic Condition of Skin and its Appendages in a Boy."[1] The present case was a youth of eighteen, who was three feet six inches high. A peculiarity in his appearance was first noticed by his parents when he was about six months old. At eighteen he looked old beyond his years and was grave and mature in aspect and manner. The senile appearance of his face and the rest of his body was much intensified by the apparent absence of subcutaneous fat. The hair was also absent with the exception of a very feeble growth on the scalp, eyelids and the backs of the fingers. There was a peculiar brownish red pigmentation of the skin. His nails were short and membranous. His teeth were very irregular in size and in the manner of their eruption. They were in two rows, some being permanent teeth or their stumps, while others were healthy or decayed milk teeth. The alveolar portion of the lower jaw was disproportionately developed for their accommodation, while the rest of the bone was both relatively and actually small. His eyes were protuberant. His head was relatively large and the anterior fontanelle did not close until he was eighteen years old. His intelligence and memory were good. His skull was as yet undifferentiated into its two tables, and was of the thinness and appearance of that of a child of a few months old. The brain and base of the cranium showed no abnormal appearance. The scapulæ were unusually small, while the clavicles were so tiny as to remind one of the "merry thought" of a chicken. On the other hand the lower ends of the humeri and of the femora, and the knuckles of the fingers and toes, were relatively large and conspicuous. The thymus was persistent and hypertrophied, but the thyroid was of normal size and appearance. His heart showed signs of valvular disease for some years before his death. The mitral and aortic valves and coronary arteries were then found to be very atheromatous. The capsule of the spleen was thick and cartilaginous. There was little more than a vestige of fat beneath the skin in the abdomen and behind the kidneys. He had passed through a severe attack of broncho-pneumonia and afterwards through double lobar-pneumonia. In the closing years of his life he suffered at times from asthma, and in the end died during an asthmatic seizure which followed on a short attack of influenza.

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[1] Trans. of the Roy. Med. & Chirurg. Soc., Lond., 1886.

The author remarked that the disease with which this youth was affected was one apparently of that part of the nervous system which governs the processes of nutrition. It manifested itself in a smallness and immaturity of some parts or functions, and in a relative or actual largeness or prematurity of others, and for these reasons he proposed to give the affection the provisional name of "micromegaly." It was apparently akin to acromegaly. Was it congenital acromegaly, or was the one disease the opposite of the other? Many giants owed their proportions to acromegaly; and it was possible that the same cause in action before birth might produce dwarfism. An examination of the accounts of giants and dwarfs that have been published gave strong support to the view of a close relationship between the two conditions.

Mr. Jonathan Hutchinson considered that the case related was almost identical with the one he had recorded in 1886, and that the two cases, as far as his own experience and knowledge went, were unique. The leading characteristics were the extreme dwarfism, the absence of the ordinary appendages of the skin, and the premature senility. He did not think the term "micromegaly" was specially appropriate, because there was no definite increase in the size of the different tissues or organs. Mr. Gilford's remarks on the subject of gigantism and dwarfism opened up a most interesting line of research which might have valuable scientific results.

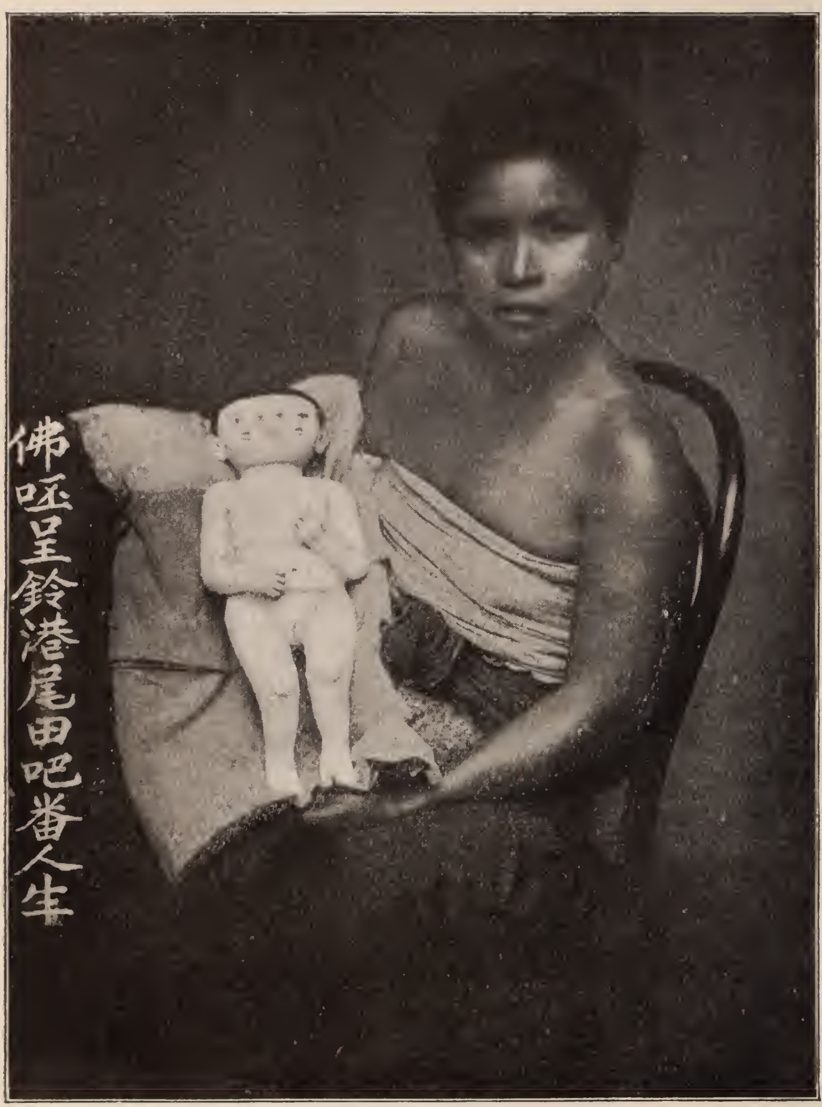
Dr. Norman Moore asked whether the affection under discussion was a genuine defect of growth or was the result of some underlying morbid condition. He recalled the fact that some amphibians, after an unusually prolonged tadpole stage, rapidly assumed the size of adult life, and men, it was stated, passed rapidly into the stage of old age.

Abstracts.

A DIPROSOPIC MONSTROSITY—A RARE CASE OF TERATISM.

W. A. Newman Dorland (*Univ. Med. Mag., 1896, ix, 107*) says that of the forms of composite monstrosities, those exhibiting diprosopia, or duplication of the face, must be regarded as among the rarest varieties encountered, at least in the human race. Thus, according to Hirst and Piersol, in 500 fetal monsters of every description observed by Förster, there were noted only twenty-nine that were diprosopic, or 5.79 per cent.—a very small proportion of a fetal condition that is rare at the best. These diprosopi have been described as showing varying degrees of facial duplication, from the simplest form, in which there is merely a doubling of the lower portion of the face, characterized by the presence of two mouths communicating with one oral cavity, and the usual number of eyes, *diprosopus diophthalmus*, up to an extreme differentiation of the features with a degree of separation of the heads approaching the condition known as dicephalus. The accompanying photograph, which was taken by a Chinese photographer, of Siam, and presented to the writer through the courtesy of his brother-in-law, Dr. James B. Thompson, of Petchaburee, Siam, represents that variety of the diprosopi known technically as *diprosopus tetrophthalmus*, in which there are present four eyes, although the individual still has but two ears.

The teratism in this instance was a female, born in the village of Ban Laam, a few months ago, of Siamese parentage. It had four eyes, two mouths, and an unusual width of the head. No mention is made of any other congenital defect—to which this form of monstrosity is especially liable—although it is probable that such existed internally. The child survived for fifteen days, eventually dying of inanition, which was induced by an inability to retain the nourishment taken, since the milk introduced through one mouth was immediately regurgitated through the other mouth, thus proving



A Diprosopic Monstrosity.

We are indebted to Dr. W. A. Newman Dorland and to the University Medical Magazine for the use of this block.

the existence of a common esophagus opening into the two oral cavities.

The points of especial interest in this case, in addition to the variety of malformation itself, are the sex of the child and the length of time that it survived. Of five cases examined by Fisher three were females and two males, and of the twenty-nine cases reported by Förster, sixteen were females and six males, in seven cases the sex not being stated. This indicates in thirty-five reported cases a percentage of 57$\frac{1}{7}$ of female children, or about two-thirds of the reported cases. Owing to the presence of other grave congenital defects, notably of the gastro-intestinal canal, the majority of the diprosopi are not viable. The child in the present instance lived for fifteen days, and Hirst and Piersol state that cases have been reported in which the child lived fifteen minutes, several weeks, and in one case seven months, with a good prospect of continued existence. (Regnault, quoted by Fisher).

PROGNOSIS AND TREATMENT OF ACUTE BRONCHO-PNEUMONIA IN CHILDREN.

Le Gendre (*Sem. Med.*, *1896*, *xvi*, *12*) says that the prognosis of acute pneumonias in children is usually influenced by the nature of the primary disease (those following croup give the worst prognosis, then come those following whooping-cough; in those coming on after measles and la grippe the severity of the epidemic must be taken into consideration), by the individuality of the child (hereditary tuberculosis, alcoholic parentage, pathological previous history, as a tendency to bronchitis, emphysema in consequence of whooping-cough, abnormalities of the thorax due to rhachitis, disturbances of the central nervous system, localized tuberculosis), and lastly the anatomical form of the broncho-pneumonia (stationary focus in one lung, or diffuse spreading focci). The clinical symptoms which would lead to an unfavorable prognosis are: Very great frequency of the respiration, of an irregular, particularly Cheyne-Stokes type, rapid and irregular pulse, cyanosis or great pallor of face and lips, temperature above 40°C., without morning remissions, excessive weakness and stupor. Convulsions occur later, when meningeal symptoms are present; a sudden diminution or cessation of the cough, while the stethoscopic symptoms and the frequency of respiration indicate that the diseased process in the lungs is still active.

The clinically favorable signs are: a strong pulse, notwithstanding the fever, copious secretion of the urine, desire for food, good humor and regular sleep.

The treatment also is not without influence on the prognosis, in this sense, that with careful nursing and good hygienic surroundings the preference should be given to an active medication at the beginning of the disease. All hyposthenic and anesthetic medicines should be avoided, and all efforts should be directed towards saving the nervous system. Former methods aimed to counteract the congestion of the lungs by means of counter-irritation of the skin, to check the fever with antipyrine and quinine, and to combat cardiac failure with tonics, particularly alcohol. According to Le Gendre's views, hydropathic treatment has a much greater influence than medicines. To combat the active hyperemia of the lungs, cold applications about the thorax should be applied, repeated at first every half hour, then every hour. This treatment will produce a notable decrease in the number of respirations, and hence ameliorate the dyspnea. Should no improvement take place after having applied these measures for some time, the whole body must be wrapped in a wet cloth, after which a luke-warm or cold bath, according to the age and strength of the child, is given. He begins with a temperature of the bath 2° below the patient's bodily temperature, and only employs baths of 20°C., and ten minutes' duration in the most severe cases. Besides the hydro-therapeutic and hygienic measures, the author lays great stress on subcutaneous injections of caffeine as a heart stimulant, and on alcohol, combined with careful dieting.

RENAL COLIC IN YOUNG INFANTS.

GIBBONS (*La Semaine Medicale, 1896, v, No. 5*) reported at the meeting of the Koenigl. Gesellsh. fur Med. and Chir., held in London, six cases of renal colic in children between the ages of nine and twenty-three months. Although the whole symptom complex of renal colic was observed in these patients, there was no calculus found in a single case, the urine containing only blood and masses of uric acid débris.

The parents of these children were all gouty. The disease always began suddenly. Before the attack the condition of the children did not present anything abnormal, and the urine was normal.

Cases of renal colic in infants are very rare, and are frequently mistaken for intestinal colic. Hutchinson did not admit these cases as genuine, because no stone was found. He reminded his confréres of the favorable influence of large quantities of common salt in the formation of gravel. This is probably due to the excess of chloride of sodium keeping the uric acid in solution.

Morgan remarked that uric acid crystals are frequently found in young children without causing renal colic. Guthrie was of the opinion that the passage of uric acid crystals through the urinary passages may produce symptoms like colic, as well as the passage of a stone.

Pasher stated that he had observed a number of cases of stone in the kidney in young children, but never met with a case of renal colic without the presence of uric acid.

Gibbons repeated that in every case seen by him there were present in the urine blood and gravel. It may be possible that stones were present, but so small that they escaped notice. As the children were so young as to be on a milk diet, it was impossible to administer large doses of salt. He persisted in his view, that the presence of crystals of uric acid is sufficient to produce attacks of renal colic in infants.

STRYCHNIA IN PEDIATRICS.

Comby (*La Medicine Moderne, 1896, xxvi, 201*) believes that this remedy is rather neglected in the therapeutics of childhood. It is principally indicated in depressed and paretic conditions of the nervous system. In organic paralysis, however, it should only be used late in the course of the disease, when we are assured that myelitis, encephalitis or similar inflammatory conditions are absent. Although it may be used in chorea, it is directly contraindicated in convulsions, in infantile eclampsia and in all conditions where an irritability of the nervous system predominates. In heart disease, principally in acute insufficiency during infectious diseases, it acts as a temporary stimulant, a tonic to the nervous system. In debility it should be used, whether as a sequel to pneumonia, typhoid fever, measles, diphtheria or the bronchitis of whooping-cough. In bronchiectasis, emphysema of lung and asthma, it should be employed. Another indication for its use is chronic dyspepsia with atony and dilatation of the stomach, except when severe gastric pain with nervous symptoms are present. Lastly strychnia is useful in prolapse of the bowel.

In affections of the stomach he prescribes the following for a child three to five years old.

℞	Pulv. nuc. vom.	0.01
	Sod. bicarb.,	
	Magn. calcin.	aa 0.2
	Pepsini.	0.1

M Sig.—Give one powder morning and evening, before meals, for ten days, then withhold for the same time, and repeat if necessary.

In incontinence of urine, pills of the extract of nux vomica, or ten to twenty drops of a mixture of equal parts of the tincture nux vomica, aromatic tincture of rhubarb and cinchona at bed-time should be given.

In prolapsus of the rectum the strychnia should be used hypodermically.

℞	Strychnia sulph	0.01
	Aqua destill	10.0

Mix. Ft. solutio. Sig.—One to two injections daily.

In other affections it may be used in solution and given by the mouth.

℞	Strychnia sulph.	0.05
	Aqua destill	90.0
	Syr. simpl	10.0

Mix. Ft. sol. Sig.—One teaspoonful daily gradually increased to 2-6.

Strychnia may also be used in the form of an ointment in tympanites, intestinal obstruction and peripheral palsies (diphtheria, amaurosis).

℞	Strychn. sulph	1.0
	Lanolin	30.0

Mix. Sig.—Rub into the affected part twice daily.